

R E V I E W .

ART. VIII.—*Traité Clinique et Pratique des Maladies des Enfants*; par MM. RILLIET et BARTHEZ, Docteurs en Médecine, anciens internes lauréats de l'Hôpital des Enfants Malades de Paris, &c. &c. Tomes III. pp. 2375, 8vo. Paris, 1843.

Clinical and Practical Treatise on the Diseases of Children. By MM. RILLIET and BARTHEZ, &c.

THE attention of recent observers in Europe, as well as in this country, has been strongly directed to the study of the peculiar modifications of disease which have at all times been observed during childhood, and a large amount of facts has been collected, both from their own investigations, and from the writings of earlier authors, which has been communicated to the profession in several complete treatises on the pathology of childhood. In France, however, no general work upon this subject had appeared to sum up the knowledge scattered through special dissertations, and in the pages of medical journals, when MM. Rilliet and Barthez, in 1837, conceived the plan of endeavouring to fill up this chasm in medical literature, by publishing a series of monographs upon the principal diseases of childhood, and especially of that period "which extends from the end of the first year to puberty."

They enjoyed the most favourable opportunities for the collection of valuable materials, in their position as *internes*, or resident physicians of the *Hôpital des Enfants Malades* of Paris, and devoted their whole time and attention for several years, to the careful investigation of every circumstance connected with the cases which passed under their inspection, and which would throw light upon their pursuits. In 1838, their first monograph, on Pneumonia, was published in the *Archives Générales de Médecine*, and has been followed from time to time by other valuable ones; they were fortunately enabled subsequently to enlarge the sphere of their labours, in consequence of one of them being continued for two years longer in the hospital, after having sustained a brilliant and successful *concours*, and were thereby induced to undertake the preparation of the work which lies before us, in the prosecution of which task, they acknowledge their indebtedness to the kindness of the physicians under whom they served, for great facilities in conducting investigations, and to several former colleagues, for interesting cases.

The authors tell us in the Preface, from which the above narrative is derived, that their chief aim is "to facilitate the study of the diseases of children, a subject full of difficulty, and to furnish a useful guide to the physician at the bedside of the sick." They also desire to contribute their proportion of useful materials to the history of pathology, by reporting with circumstantial detail the facts relative to the pathology of childhood, exclusively; facts, which are the results of their own personal observation, and for the accuracy of which they can therefore vouch. In

pursuance of this design, every case which appeared in the wards under their charge, during a period of several years, and at all seasons, was carefully studied, every particular in each, however minute or apparently unimportant, was scrupulously noted, and no pains were spared in preparing them for ultimate analysis. Laborious as was the task of collecting materials for the work, it did not exceed in difficulty, nor require less patient perseverance than that of reducing them to order, and arranging them in such a manner as to present to the reader the results to which they led. The plan adopted for this purpose, after rejecting many of their earlier cases as being incomplete, was that which had been so successfully employed by M. Louis, consisting in a statement of the number of cases under examination, and in a complete analysis of them, in tables, under every possible aspect. Had these tables been published in full, the authors feared that they would have justly incurred the charge of being unnecessarily prolix; they have, therefore, been content to give the results of these analyses and "succinct extracts from cases which had been collected in detail," when they were of sufficient interest, or were required for illustration.

They have also compared with their own, the recorded observations of the principal writers of England, Germany, and France, and have thus been enabled to give a complete account of the history of these diseases, which, from the manner in which it is presented, possesses all the attractions of novelty and originality, confirming in most cases the opinions of previous writers, at the same time that it opens up new views and considerations relative to the diseases of children. Such, then, is the plan upon which the authors proceeded in collecting and preparing their materials. The manner in which they were finally arranged, and the conclusions that have been deduced from them, we are now to examine.

In the introductory chapter MM. Rilliet and Barthez recognize the propriety of establishing periods in the duration of childhood, in the full belief that the diseases of that time of life are impressed with peculiar characters, according with the physiological development of the child, and they consider the age of the child as affording a proper distinction, as the usual division founded upon dentition, could not well apply to children who had all passed the age of 15 months. "The age of 6 years seems to form a sufficiently marked separation, for diseases often present a different aspect before, and after that epoch." Secondary divisions are laid down in each of these groups, children of from 15 months to 3 years, being distinguished from those between 3 and 6 years; whilst those between 6 and 10 years are sometimes noticed apart from those between 11 and 15 years, this last period forming the transition from childhood to puberty.

The general consideration of the diseases of children reveals the fact that they are but rarely simple, and that the same affection presents a very different aspect, when it occurs during good health, or in the course of some other disease. The authors also state, that

"Diseases of the same nature have the greatest affinity for each other, mutually and habitually engendering each other, provided they do not arise from the same cause; in which case the secondary affection may cure the primitive one; whilst those of an opposite nature generally repel each other, provided they do not recognize the same cause, or provided the first does not act as a local stimulus to the second. Hence, it is less important to study the seat than the nature

of the disease, when we compare the primitive with the secondary, and look for the laws of their concatenation."

These diseases are also acute, chronic, or cachectic, the last developing themselves in children, either constitutionally feeble, or becoming so in consequence of a succession of morbid conditions.

As a basis for classification, the nature of the disease, though not free from objections, of which the authors were fully aware, appeared more applicable in this case, because it enabled them to group together the facts they have collected in a manner, which was, at least, as judicious as any other. The classification of Pinel was, therefore, adopted in the volumes before us, after having been modified by the results of more recent investigations, and, especially by more accurate knowledge of the anatomical, pathological, and therapeutic affinities of disease. Thus we have 1st, Phlegmasiæ; 2d, Dropsies; 3d, Hæmorrhages; 4th, Gangrenes; 5th, Neuroses; 6th, Continued Fevers; 7th, Tuberculization; 8th, Entozoa, which last was added by MM. R. and B. These are placed in such an order as that those which are habitually secondary may be first described, this arrangement being deemed most advantageous for the study of each disease. In these divisions or classes, many forms of diseases to which children are liable, are evidently unnoticed; they are, however, either included under some of these heads, to which they bear the closest affinity, as congestion, hypertrophy and softening, under that of phlegmasiæ, or they are passed over entirely, as belonging rather to the domain of surgery, as cancer, "which, by the way, is a very rare affection in children," rachitis, and the surgical affections proper.

Secondary divisions, founded upon a local lesion, or local symptoms, are established in these 8 classes. "Thus in each of them, we study the diseases, 1st, of the chest; 2d, of the nasal fossæ, of the mouth, and of the neck; 3d, of the abdomen; 4th, of the encephalon and spinal marrow; 5th, of the external organs, as the skin, the articulations, the genital organs, the ears, &c. The diseases of each organ will be the subject of a chapter in each of these sections." A full and careful exposition of the pathological anatomy, of the symptoms, of the diagnosis, of the complications, of the prognosis, of the causes, of the treatment and of the history or bibliography of each disease is laid before the reader, and occasional remarks are added concerning its nature and its *physiologie pathologique*, when necessary for the purpose of elucidation or for the justification of opinions advanced.

It should be remarked, besides, that, while MM. Rilliet and Barthez have neglected nothing of importance in reference to any of the above particulars, so as to make complete monographs of their description of each disease, they have devoted especial attention to symptomatology and therapeutics, regarding the former as the "foundation stone of diagnosis," and as the only true means by which, with an accurate knowledge of pathology, we can hope to lay down the proper indications for the treatment of disease. They have endeavoured to establish useful and detailed therapeutic rules, derived from their own experience and from a careful study of the writings of others, and especially of the Germans. The indications for treatment are well presented; the modes of action, and the advantages to be expected from the use of each remedy proposed to meet these indications, are separately examined; and in a concluding paragraph to the account of each disease, there is a "brief recapitulation of the different phenomena which may

be presented by children labouring under the same affection, and an indication in the form of a simple prescription, of the treatment which appears best adapted to each form and period of the disease;" a mode of proceeding which cannot but be regarded as highly commendable, and as adding greatly to the practical value of this work.

We have thus placed before the reader an outline of this treatise, as it is sketched in the introductory chapter, and we will now proceed to examine, or rather to give an account of, the different subjects embraced within its pages, recalling, however, first to the reader, that *infants*, properly so called, are not included among the patients admitted to the *Hopital des Enfants Malades*, and are, therefore, not referred to in these volumes. It is due to the authors to bear this fact in mind, for it will enable us to account for statements which might otherwise appear contrary to generally received opinions, but which will, in fact, be found to be perfectly correct when examined with this restriction.

Our attention is directed in the first place to that important class, the phlegmasiæ, under which title, as before stated, are placed both for convenience, and with evident propriety, hyperæmia, softening and hypertrophy. A preliminary chapter introduces the subject of inflammation, summing up in an admirable manner all that is known relative to the organs it attacks, the peculiar forms it at times assumes, the symptoms by which it is revealed, and the treatment requisite to moderate its action and to effect a cure.

The peculiarities of the phlegmasiæ in children, as noticed by MM. R. and B. consist rather in a greater or less liability to certain anatomical and symptomatic forms, than in a dissimilarity of nature from those met with at a late period of life. It is also noticed that "their symptomatic and often their anatomical form, their seat and their distribution are modified by the condition giving rise to them;" indicating an important principle in their treatment; for, "if the lesion of the organ is taken as the sole guide, and the disease is attacked by the same remedy," whether the form be a primitive acute attack occurring during health, or either primitive or consecutive in a weakened cachectic constitution, "you exasperate it in the one case, and you relieve it in the other. The curative medication of inflammation in children, must be directed rather according to the symptoms, than by pathological anatomy, which should take the second place in our consideration." Vol. i. p. 10.

One of the most important facts to be noticed in the inflammatory attacks of children, is,

"That they rarely remain isolated, succeeding each other with the greatest facility, or marching simultaneously, the one aggravating rather than curing the other. * * * An inflammation existing in an organ may disappear, remain stationary, or increase under the influence of an inflammation developed in a more important organ; but the disappearance of the first inflammation is the exception to the rule, at the same time that the general condition is always rendered worse. * * * If on the other hand, an organ less essential to life is inflamed, and the same process is developed in another organ of less, or nearly equal importance, we are firmly convinced, that the first inflammation will never or almost never be diminished, sometimes it will increase, and the second inflammation will only prove an additional cause of death."

The danger of using blisters, or even sinapisms, or any cutaneous revulsives in inflammation in children, follows as a corollary to this proposition, the authors conceiving that they only cause additional pain and

an excitement often useless for the relief of the internal affection, which will follow its fatal course, and may even be aggravated by this new inflammation. We shall have occasion to advert to these opinions hereafter.

A marked distinction is to be observed between those inflammations occurring in the course of previous good health, and those coming on in the midst of some other affection; each of these forms, again, may be acute, chronic, or cachectic, giving rise to the following divisions, under which inflammations are here studied.

Primitive phlegmasiæ with an acute type;

Consecutive phlegmasiæ with an acute type;

Primitive phlegmasiæ with a chronic or cachectic type; and

Consecutive phlegmasiæ with a chronic or cachectic type.

Before leaving these general considerations, we would direct attention to two interesting particulars, mentioned by our authors. One is, that, as far their observation extends, and it is we believe in accordance with sound pathology, "Inflammation of the parenchymata rarely, we would willingly say never, leaves atrophy as a result, having met with no example of it; hypertrophy, on the other hand, is, if not a frequent, at least, a possible consequence of it." Vol. i. p. 8. The other, and it is a fact to which we find constant allusion in the pages of these volumes, is, "that the age, the sex, and the constitution of the child establish a great difference in the predisposition to certain kinds and certain forms of inflammation; thus, the youngest and most delicate children and girls are more subject to the chronic and cachectic forms, than older and more sanguine children and boys." Vol. i. p. 13.

Among the inflammatory affections which occupy the first section, those of the chest are first presented to the reader's notice. Prominent among these, both on account of its frequency, and the different forms it assumes, stands bronchitis, a disease long confounded with pneumonia, and only recently studied apart from it. The principal facts upon which the chapter on bronchitis is founded, were originally published by the authors in their monograph on pneumonia, which was designed to give a complete history of that affection, in all its relations with other diseases of the lungs; since then, many additional and important observations have been collected, and a valuable stock of new and interesting matter has been placed within their reach in the thesis of M. Fauvel on Capillary and Pseudo-Membranous Bronchitis, which has corroborated their views and conclusions. These, however, have long been before the public, and, having been found to coincide with those of other accurate observers, have been adopted in almost every standard work which has since been published; we will therefore only point out a few of them.

MM. Rilliet and Barthez state, that you rarely meet with the anatomical characters of acute bronchitis in a child under five years of age, without at the same time finding traces of pneumonia, this being sometimes a secondary disease, at others primitive or concomitant. Connected with this, we are told that the value of the sub-crepitant rhonchus, as a diagnostic sign of bronchitis, differs with the age of the child in whom it is met with: thus if it is under five years, and the sound is heard either on one or both sides of the chest, there is danger of pneumonia existing as a complication of the acute bronchial inflammation, whilst after the age of five years, there is less probability of this being the case, though even here, from the tendency to the occurrence of lobular pneumonia, its presence may be sus-

pected. Where the crepitant rhonchus is heard, the authors have invariably, with one exception, met with portions of the lung affected with pneumonia. The local and general symptoms together, can alone afford a measure of the gravity of the disease. This, when the affection is primitive, is comparatively slight; but, from the facility with which the inflammation extends to the whole of the bronchial tubes even to the minutest ramifications, and with which it becomes complicated with pneumonia, it is always to be carefully watched and requires prompt treatment. When from the outset, the whole of these tubes are inflamed, the disease invading the smallest bronchi, constituting what is called the capillary form, accompanied with high fever, acceleration of the respiration and great dyspnoea, with a copious purulent and pseudo-membranous secretion, it is at all ages a serious disease; indeed, all the authors' patients and those of M. Fauvel, which were thus attacked, died; and we are elsewhere told that "the great majority of those who died of bronchitis presented muco-purulent and pseudo-membranous secretions in the bronchi, especially in those of the lower lobe." In these severe cases, the employment of moderate bleedings, and emetics, and, especially, the antimonial preparations, with diffusible stimulants and cutaneous revulsives in the latter stages, is recommended to be adopted; in the milder forms, however, it will be only necessary to keep the children in bed, giving them mucilaginous drinks and slight antimonials, sedatives when the cough is troublesome, and emetics when the collection of mucus in the lungs is very great.

The conviction that most of the readers of modern medical literature must be already familiar with the valuable researches of the authors on the subject of pneumonia in children, both from the able memoir to which we have already several times alluded, and from the excellent work of M. Grisolle on pneumonia,* into which it has been incorporated almost entire, induces us to attempt merely to recall some of the results of their investigation, and to state that their subsequent inquiries have only tended to confirm their conclusions.

It has been asserted that bronchitis always precedes pneumonia in children, especially the younger ones; nor can it be denied that such is often the case, and that in a great majority of instances inflammation of the bronchi is found to occupy the smaller ramifications, co-existing with the lobular form, which is so much more frequent than the lobar at this period of life. The authors, however, believe that this bronchitis should be looked upon rather as a predisposing cause to the inflammation of the parenchyma of the lungs, than as an active occasional cause, and they state the results of their later researches upon this subject, as follows.

"We admit, 1st, that lobar pneumonia, without bronchitis, in children under five years of age, occurs more frequently than was supposed in 1838; 2d, that lobular broncho-pneumonia is much more frequent than simple lobular pneumonia; 3d, that it is nevertheless incontestable, that lobular pneumonia, mamillated, partial or generalized, may exist in children without bronchitis; and 4th, that inflammation of the bronchi and of the lungs is, in some cases, simultaneous." Vol. i. p. 114.

Lobular pneumonia is not only more frequent, but it is more serious than the lobar form. It occurs either in isolated separate lobules, or with a tendency to extend from these and generalize itself over the lungs, thus presenting a very grave form of disease. In the immense

* Reviewed in the No. of this Journal for July, 1843.

majority of cases it is double; indeed, of 203 cases, it was single in only five instances, and in these it was of little importance. The exceptions were cases in which carnification,—itself, in fact, a form of pneumonia,—existed in the opposite side, or in which the inflammation was developed around a tubercular deposit, or as the authors met with it sometimes, after scarlatina and variola, in which hepatized lobules—in fact rather resembling apoplectic nuclei—were found on one side only. This lobular form not rarely reaches the third degree, terminating in the formation of abscesses, varying from the size of a pin's head to that of a pea. These are sometimes met with in the lobar form, but very rarely, and are then larger. Lobar pneumonia is generally single, most frequently developed on the right side, and at the base of the lungs. In one-third of the authors' cases they observed it in the upper lobe. In reference to this point, a curious statement is made by MM. R. and B.; they say, "that almost all the children (affected with pneumonia) which entered the hospital in April, May, and June, 1840, were attacked with pneumonia of the summit, presenting, as it were, a sort of epidemic of this form, which is generally rare." We find repeated here a fact relative to diagnosis of pneumonia of the summit, which was first announced by the authors in their memoir in 1838, and which they assure us is confirmed by their subsequent observations. It is that inequality in the respiration, and especially an abrupt broken rhythm, (*rhythme saccadé*), indicates almost exclusively this form of the disease, and that the attack sometimes commences with violent and repeated convulsions, often followed by loss of consciousness, which disappears after a time leaving a considerable acceleration of the pulse and of the respiration, leading to a suspicion of a pulmonary affection, which may be detected by other and more certain signs. This convulsive commencement of the attack is almost exclusively met with in this form of pulmonary inflammation.

That condition of the lung which has received the name of carnification from M. Ruz, and which presents the appearance of the lung of a fœtus which has never breathed, is considered by the authors to be a termination of pneumonia, or, as it were, a chronic form of it, it being sometimes possible to trace the transformation by which the pulmonary parenchyma passes from the first degree of inflammation to it. Indeed, with the exception of this lesion, they assert that they have never met with any which could be regarded as indicative of chronic pneumonia, except in tuberculous cases, which we shall have occasion to notice hereafter.

As regards the prognosis of this disease, the authors are inclined to modify their former opinion, they having stated with MM. Gerhard and Ruz, that in general pneumonia, occurring in children between the ages of 6 and 15, in the midst of good health, terminated in a cure. This they now believe to be too broad a statement, and they deem that they will better express the results of their observations in the following words.

"Lobar pneumonia, occurring in children between 6 and 15, in the enjoyment of previous good health, when it occupies only one lung, and is complicated by no secondary affection, gets well in the great majority of cases." Vol. i. p. 107.

The gravity of complicated pneumonia depends upon the nature of the secondary affections. Among the most fatal is rubeola, which, in the great majority of cases, provokes the reappearance of the inflammation, and causes it to assume a form always very serious, (double generalized pneumonia).

The treatment seems to be wisely directed, except as to the very free use of tartar emetic. The authors, indeed, advise caution in administering it to very young children, because of the danger of exciting vomiting and diarrhœa. These evils are certainly very serious, and should be carefully guarded against; but there is another, which is not less alarming, but to which the authors do not even allude; we mean the sudden and sometimes fatal prostration which it often causes in very young children, and which should always make us watchful of the cases under its use. Of calomel, too, in this disease, they speak doubtingly, at which we are somewhat astonished, its effects being here and in England so well known and so highly appreciated, as to make it, either alone or combined with opium, to be looked upon as the sheet-anchor in our treatment. Upon the whole, however, we do not hesitate to say that we have never met with a more able or a more complete exposition of the history of this disease, under all its forms, and under every aspect, than that which is contained in this chapter. Not a single point is overlooked, and yet the facts are grouped together so clearly, and at the same time so naturally, that they cannot fail to impress the reader with the conviction of the accuracy and truthfulness of the descriptions presented.

As a part of the history of bronchitis and pneumonia, a chapter follows on emphysema. This, "in a great majority of cases, is a mechanical and almost necessary consequence" of these affections, though almost any disease which causes a considerable acceleration of the respiration may produce the same condition. In children the dilatation of the vesicles is almost always an acute affection, differing in this from that of adults, with the exception, however, of rachitic individuals, in whom it occurs from pressure exerted by the ribs, and in whom alone it is chronic, and resembles, in its extreme dyspnœa, that which is met with in adult asthmatic patients. In children the sound on percussion remains normal, the appearance of the chest natural, and the respiration is remarkably exaggerated. Hence there is much difficulty in ascertaining the presence of emphysema, although it may be suspected in all cases where the chest is deformed by rachitis, or where an acute affection of the lungs, prolonged for some days, has caused great respiratory efforts.

"The causes may be summed up, in a forced distension of the pulmonary cells, in consequence of the impossibility of the air penetrating into other parts of the organ, or in an obstacle to inspiration, situated either in the bronchi or at some higher portion of the respiratory tubes. * * To these causes must be added acceleration of the respiratory movements, the intensity of the emphysema being in direct proportion to that of the oppression."

In their account of pleuritis, which occupies the next chapter, the authors exclude all cases which were complicated with tubercles, referring the reader to the third volume of the work for a description of this and other forms of tuberculous disease.

Without dwelling too long on this disease, we would direct attention to the following interesting remarks upon the modifications of the stethoscopic signs in cases of pneumonia complicated with pleurisy.

"We lay it down as a principle," say the authors, "that, when a pleuritic affection takes place in a child labouring under an hepatization of the posterior part of the lung, all the anormal sounds which were perceived at the level of the diseased point are considerably exaggerated, and the sonorousness disappears. We mentioned just now that this curious phenomenon does not occur in all

cases. The necessary condition for its production is, that the hepatization is sufficiently extensive and profound to prevent the lung from collapsing. Thus it may be inferred that if an entire absence of respiratory murmur succeeds the symptoms of a well-determined pneumonia, the hepatization was of slight extent, and but little profound; whilst, on the other hand, if the *souffle*, the resonance of the voice, and the dullness are suddenly increased, the pneumonia, to which the pleuritic effusion has just been added, occupies a large extent both in depth and surface." Vol. i. p. 153.

The treatment of pleurisy is conducted by the authors with much prudence. In the acute secondary attacks, and in the chronic form, they recommend, after the German practitioners, from whom they have adopted this practice, the use of calomel and digitalis. But at the same time, almost repenting the sanction they thus give, they advise extreme caution in the use of this "energetic medicine," calomel, especially in debilitated constitutions, and when it manifests a tendency to act too freely upon the bowels, never apparently dreaming of the possibility of combining it with opium to counteract such effects. Such is their general method of speaking of calomel, and we cannot help remarking that this bugbear of French therapeutics pursues the authors throughout their work. It is true that the use of this medicine is very often recommended by practitioners when it might well be dispensed with, and that injurious effects occur from the indiscriminate employment of it in all sorts of constitutions; but it cannot be denied that the prejudices due to this cause would deprive us of a very valuable remedy when properly directed, and would materially diminish our powers of successfully combating disease.

The authors have little confidence in blisters in the acute forms of pleurisy, and have no experience with them in chronic cases, though they think it may be useful to cover the affected side with a large diachylon plaster, to protect it from the action of cold, and to produce a slight cutaneous irritation. Of the operation of empyema they entertain a favourable opinion, and advise it where other remedies have failed to produce relief, as chronic pleurisy, independent of tuberculous disease, is not very rare in children, and, therefore, the operation offers a pretty good chance of relief and cure.

Pneumothorax in children, as far as the authors have observed, arises solely from a perforation of the lung, allowing the escape of air into the cavity of the pleura; they have never met with a case of which the origin could be traced to gaseous exhalation there. Its prognosis is more favourable in the child than in the adult, because children will bear a greater degree of dyspnœa, because cases have been prolonged for one or more months, because abscess of the lungs, one of its causes, is not necessarily fatal, and because cases of cure have been reported. MM. R. and B. have themselves witnessed two cases which recovered without any medical treatment, and M. Constant reports one cured by opiates. Seven cases of this affection are reported by the authors, all of which followed pneumonia; six of them were fatal, and one was cured. The perforation in those analyzed was very small, and led into abscesses precisely similar to those described under the head of pneumonia. Two detailed cases, one of which was fatal and the other recovered, are related at the end of this chapter.

In continuation of their account of the inflammation of the organs within the chest, the authors next consider that of the heart and of its

internal and external membranes. In looking over the recent works of Stewart and Condie on the diseases of children, we find no mention made of the occurrence of any of these cardiac affections; nor is this to be wondered at; for with the more extensive opportunities enjoyed in the European hospitals for pathological researches, they have failed to attract attention until within a very recent period.

Of pericarditis, which is "a rare and almost always secondary affection in childhood," 24 cases have been collected, and form the basis of the chapter on that disease. It is almost exclusively met with in children over six years of age, as a complication in the course of some other disease, especially rheumatism and scarlatina, and may be distinguished by an "obscurity in the beating of the heart, dulness on percussion, prominence of the precordial region, a rubbing sound (*bruit de frottement*) or a bellows murmur, during the first sound of the heart." It is not considered a very grave affection of children, less so when partial and occurring with rheumatism, than when general. The grounds of this prognosis "are, 1st, the frequency of milky spots, and of limited adhesions, traces of cured partial pericarditis; 2d, the number of cases resulting in cure, collected by the authors, and the fact that in most of the children which died, death chiefly resulted from the diseases which had preceded the pericarditis." The treatment of this disease should consist in the use of antiphlogistics, especially blood-letting, and of digitalis and calomel, with nitrate of potassa.

Endocarditis and hypertrophy of the heart are rare diseases among children, and have never before been studied at this early period of life, except in a few isolated cases. MM. Rilliet and Barthez have collected and analyzed 16 cases, of which 3 of endocarditis were cured. Though presenting many interesting particulars in their history, they are not sufficiently numerous, and they differ too much in detail to allow the authors to give a general description of them. Evidences of inflammation of the internal membrane of the heart, similar to those observed in adults, but less advanced in their stage, were encountered in these cases. They consisted in bright inflammatory redness, adhesions, insufficiency of the valves, simple, cartilaginous, and osseous thickening and vegetations, generally coinciding with lesions of the heart, though not necessarily so. Dilatation and hypertrophy were nearly equally frequent, though the authors are of opinion, judging from the small number of cases, "that children are much more disposed to dilatation than to hypertrophy of the heart; and this," they say, "is by no means astonishing, when we recollect that the feebleness and atony of the organ are the origin or consequence of a great number of the diseases of children." Vol. i. p. 221.

Several cases of clots found in the heart, and some, in particular, which were found in a state of suppuration in the centre one observed by the authors, and two by M. Maréchal, are detailed, and a table is given of all the lesions of the heart in 12 cases of cardiac disease analyzed, so as to show their frequency and character. These affections of the heart are not liable to be confounded with any other than pericarditis, from which they may generally be distinguished by the existence of a slight bellows sound during the first sound of the heart, without any unusual extent of dulness on percussion, with strong pulsations felt close under the hand, though dull in sound. No particular treatment is laid down for these cases.

As regards the persistence of the foramen ovale with hypertrophy of the

heart, the authors mention their inability to speak of it, it being a congenital affection, and one of which they have met with no example.

From the inflammatory affections of the chest the authors proceed, in the order they marked out, to those of the nose, mouth and neck, commencing with coryza. In its usual form this is a simple disease, and is too well known to require careful description; but there is a purulent and pseudo-membranous form, which has never been described, but which the authors have met with occasionally, and find examples of recorded in the works of M. Bretonneau and others. It coincided almost always with a primitive or secondary pseudo-membranous angina, showing its analogy with it. It is a very serious affection, every child which presented it having died "under the influence of the first affection as well as of the coryza." Indeed, it seems to us to be nothing more than an extension of the diphtheritic affection of the mucous membrane of the nose, either having its commencement there, or attacking it secondarily.

A short chapter on pellicular or ulcero-membranous stomatitis follows. It is a disease distinct from gangrene of the mouth, and of which "the essential and pathognomonic symptoms are more or less deep ulcerations and false membranes covering them;" it is not of itself a very serious affection, yielding easily to appropriate treatment, which consists in removing the child from the improper hygienic conditions which are generally its cause, and in making use of emollient gargles and washes of the solution of the chloride of lime, with alteratives and tonics internally.

Pharyngitis or angina, comprehending inflammation of the velum palati, amygdalæ and pharynx, which are generally found united in nature and of which the separation in description, in children at least, would lead to no practical advantages, may be either erythematous or pseudo-membranous in its anatomical character. The erythematous form is well known and well described here, but it is to the pseudo-membranous form that chief attention is directed, because it is peculiar to children. It may be primitive, corresponding with the gangrenous angina of authors and the diphtheritis of M. Bretonneau, or secondary, occurring most frequently in the course of eruptive fevers, as witnessed in scarlatinous angina, which may be considered a type of these secondary forms. In both of these, the pseudo-membranous exudation takes place; in the former, seated generally upon a mucous membrane, which preserves its polish and consistence, but sometimes is studded with ecchymotic spots, and, as the authors observe, occasionally presents ulcerations; these last, however, are exceptional cases; in the latter, the mucous membrane is intensely red, rough, thickened and softened and the amygdalæ are swollen, soft and infiltrated with pus; with deep-seated ulcerations at times. MM. Rilliet and Barthez agree with M. Bretonneau in believing that those who have spoken of the gangrenous tendency of the primitive form of this disease, have fallen into the error of mistaking for sphacelus both of the false membranes and posterior fauces, what are in fact, putrefied false membranes, continuous with the membranous cylinders lining the larynx, &c., the mucous membrane underneath being entirely free from any thing like sphacelus. New facts, indeed, show that gangrene of the pharynx does occasionally occur, sometimes sporadically, at others epidemically, but as the authors have proved in a memoir on the subject, in both cases it was entirely distinct both in its march and symptoms from pseudo-membranous angina, though both may unquestionably attack simultaneously the same individual.

As a general rule, except where the epidemic assumes a typhoid character, requiring a tonic and stimulant medication, the treatment should be moderately antiphlogistic, with an especial attention to topical remedies, consisting in the application of caustics, as hydrochloric acid, nitrate of silver, chloride of lime, &c., directly upon the affected parts; we should combine therewith the use of emetics, and in epidemics, a constitutional treatment of calomel or the sulphuret of potassa. There is an objection to bleedings, when a tendency to hæmorrhage or cutaneous diphtheritis exists; the cutaneous lesions caused by the bites of leeches, the section of a vein or a scarification may become the seat of a fatal hæmorrhage, or may give rise to formidable ulcerations which in these cases sometimes invade a large extent of surface. The possibility of such an accident should also make us reject the use of blisters entirely in pseudo-membranous angina.

Laryngitis, so terrible and fatal in some of its modes of attack and about which so much has been written, is described in the pages before us under five distinct forms: 1, the pseudo-membranous, either primitive, constituting true croup, or secondary; 2, spasmodic, or the asthma of Millar, stridulous croup, in which the inflammatory element is combined with a nervous one; 3, acute erythematous and ulcerous; 4th, chronic, and 5th, submucous, or œdema glottidis.

Of these, the most fearful and the most important in its consequences, is without any question, pseudo-membranous laryngitis or croup. The only positive diagnostic symptom of this form is the rejection of false membranes. Unfortunately, however, this does not take place in every instance, the authors not having noticed it in more than one-third of the cases which have passed under their observation, and when it does, not until the disease is already confirmed, often the day before, or that on which, death occurs; besides, it must coincide with other symptoms of the disease, and the false membranes must present the characteristic marks assigned to them, namely, a whitish yellow colour, the free surface often covered with a layer of puriform mucus, while that next to the mucous membrane is smooth, sometimes marked with longitudinal striæ, corresponding with analogous lines in the trachea, caused probably by the contraction of its fibres.

The authors agree in opinion with many recent writers, that a second attack of true croup never occurs. They state that they cannot discover a single clear example of its recurrence in the records of science, those so entitled being evidently cases of spasmodic laryngitis.

“There are some, however, in which we find that children who had experienced several attacks of croup, finally died of pseudo-membranous laryngitis: but this only proves that false croup does not protect from attacks of true croup. Indeed, there is a very simple cause for the absence of second attacks, in the fact that the first is almost always fatal.” Vol. i. p. 343.

The treatment by means of calomel pushed to the utmost extent, and by emetics is recommended as that which will be found the most useful; while great caution is advised in having recourse to blood-letting, this remedy being restricted to those cases in “which the child is vigorous, the disease sporadic and at the commencement the febrile reaction intense, and the fits of suffocation well marked.” In all cases it should be moderate. These fits of suffocation, by the way, are not so constant as is generally asserted to be the case, they having been wanting in one-third of the cases observed by the authors, and M. Hache. M. Maunoir of Geneva has recently

met with some success from the employment of the sulphuret of potassa, and again recommends it to the profession.

The most important matter relative to the treatment is contained in a memoir by M. Trousseau, which was placed by him in the hands of the authors for publication, and which is here given entire. It contains a summary of M. T.'s opinions and experience relative to the operation of tracheotomy, with a simple exposition of the reasons why he prefers this to that of laryngotomy. He recommends its performance, as soon as it is clearly ascertained that there are false membranes in the larynx, as the chances of success are thus much augmented, because, the false membranous covering has not yet had time to descend into the trachea and bronchial tubes and, by preventing the proper changes in the blood from the contact of the air, has not yet given rise to pulmonary engorgement or cerebral congestion, and because the topical treatment, consisting in caustic applications introduced through the opening into the trachea, of which he always recommends the adoption, and which he never fails to put in use himself, may be earlier employed to prevent the extension downwards of the disease, and will in all probability prove more beneficial. The mode of performing the operation, the necessary precautions to be observed, and the treatment afterwards to be instituted are carefully and ably exposed, and the paper is concluded by a series of statements, exhibiting the prognostic signs of almost every possible case which may present itself. (See Summary department of Surgery in this number.)

The second form, for which the authors prefer the name of spasmodic laryngitis, as "indicating the inflammatory and nervous elements which constitute the disease," has only recently attracted attention in France, though cases of it are recorded by Jurine and are found scattered in the journals. It had long been confounded with true croup, from which our authors clearly distinguish it—their method of diagnosis was presented in a previous number of this Journal by the reviewer of Dr. Condie's recent valuable work on the Diseases of Children—and state, as before noticed, that they believe that the cases of recurrence of croup, cited by different authors, belong in fact to this form of disease: they even consider it very rare to find this recurring within shorter periods than from six months to one or two years, of course not including relapses. It is most frequently observed, say MM. R. and B., between three and eight years of age, which is later than in the cases of Guersant, who says it is most common between one and seven, and which differs entirely from the statements of our own authors, who consider it almost peculiar to the period of first dentition, or from four months to two or three years. Even when uncomplicated, it may be a serious affection: we should never, therefore, give an entirely favourable opinion of it, until positive marks of improvement are manifest, and we should immediately treat it actively and without intermission by warm baths, emetics, sometimes by blood-letting from the arm or by leeches and revulsives externally.

Erythematous and ulcerous laryngitis, which are only degrees of one and the same disease, present very similar characters, differing in fact only in intensity, the former almost always recovering or passing into a chronic state, the latter, being an acute, serious primitive attack, following a rapid course, being a little more favourable in its prognosis than croup, and requiring much the same treatment. The erythematous form was, in every

instance observed by the authors, a secondary attack, manifesting itself most frequently in rubeola, variola, scarlatina, &c.

Chronic laryngitis, independent of tuberculous disease, is a very rare affection among children, the authors having met with it in but two cases, both girls about 13 years of age. Submucous laryngitis, or œdema glottidis is also very rare, though cases of thickening of the mucous membrane covering the vocal ligaments and the epiglottis are occasionally observed. Two cases only have been collected by the authors, and are reported in the chapter under consideration, where we find allusion to two others which have been published by Guilbert, which are very incomplete.

In continuation of the subject of inflammation, we are now brought to the consideration of the phlegmasiæ of the organs within the abdomen. The preliminary chapter contains a general account of the healthy and cadaveric appearances, and the pathological lesions, common to the whole gastro-intestinal tube, the reader being referred to subsequent chapters for a more detailed description of those peculiar to each portion of it. Attention is directed to the contracted state of the stomach sometimes met with, it being so diminished in size as to be "scarcely larger in diameter than the arch of the colon." This condition is solely the result of muscular contraction, as is proved by the fact that upon the section of its muscular fibres the natural capacity of the stomach may be restored. It may be produced by disease, as by acute peritonitis, or in consequence of low diet continued for a long period whether by the orders of the physician or by the carelessness and malevolence of the attendants, or it may be a mere cadaveric contraction, yielding, however, to the general relaxation of commencing decomposition. This last view appears to be sustained by the fact that the authors have never met with this contraction in children, who have been some time dead and who present the marks of advanced putrefaction.

Referring to that appearance of the mucous membrane, consisting in the presence of small black points, evidently seated in the follicles, and sometimes so numerous as to give the mucous membrane a blackish gray, or almost black colour, MM. Rilliet and Barthez, without attempting to solve the question, whether it is the result of inflammation or congestion, say, "we have found that this deposit of black matter is attended with no derangement of the digestive functions, and perhaps it should be considered similar to that which takes place in the pulmonary parenchyma and in the bronchial glands." Vol. i. p. 437.

Simple softening of the mucous membrane of the stomach, and especially of that of the great *cul-de-sac*, may occur as a diseased condition or as a cadaveric appearance; "but," say the authors, "taking into consideration the circumstances of temperature and of putrefaction under which we most generally meet with it, we are of opinion that the softening found on an examination made 24 or 48 hours after death, is more usually cadaveric than morbid." An opposite rule holds good in reference to softening of the intestinal mucous membrane; that is to say, its simple softening is much more often morbid than cadaveric. If there are evident signs of putrefaction, we may, without being certain of it, believe that the softening is cadaveric; otherwise it is morbid, especially if the intestines contain little or no liquid matters; and it is under these circumstances, that it is most frequently observed.

These and other natural and cadaveric appearances are separately studied.

and the chapter concludes with an admirable and well-digested summary of the anatomical characteristics of inflammation of the gastro-intestinal mucous membrane. Among the lesions described, are what the authors call pustules. This pustular inflammation has been but rarely met with, and always coincided with the administration of tartar emetic. It consists in a multitude of little elevations upon the internal surface of the stomach and small intestines, some scarcely prominent, others about half a line in height, from about half a line to a line and a half in diameter, generally presenting a central depression, and formed of a soft yellow matter, intimately confounded with the mucous membrane, and surrounded by a red areola of small extent. Sometimes they are larger and undoubtedly purulent in character, and are in that case found seated in the plates of Peyer's glands. This suppuration is, as it were, combined with the mucous membrane, and the pustule is not formed by the elevation of this membrane or of an epithelium by a purulent drop.

Finding no important symptomatic differences between inflammation and softening of the mucous membrane of the stomach, MM. Rilliet and Barthez consider these affections at the same time, and under the same head. While they admit that gastritis is more frequently and easily produced in children by an irritating cause, than is generally admitted at present by the strong opponents of the doctrines of Broussais, they declare their belief, that "it should not occupy an important place in the nosology of childhood," and that if they are in apparent contradiction to many authors, in affirming that softening of the stomach is only "a secondary lesion and not a primitive affection, controlling the organism, revealing itself by peculiar symptoms, and following a certain march," the reason must be looked for in the age of the children, who have passed under their inspection, for, according to all authors, except a few of the German writers, the gelatiniform softening, so much spoken of, of late, manifests itself chiefly between the period of birth and two years, attacking children of enfeebled constitution, or labouring under other diseases, and being, under these circumstances, a serious affection. While children of all ages are equally liable to gastritis, softening is much more frequent under than over six years of age, and among girls and cachectic children, than among boys and the strong and robust.

One of the most common causes of both these forms was, we are told, the employment of energetic medication, directed upon the gastro-intestinal mucous membrane, and particularly of the tartar emetic potion, repeated during several successive days. Two-thirds of the cases of gastritis and some of the softenings followed the use of these medicines, but in almost all these, the disease for which they were prescribed, was a secondary affection, the same consequences having scarcely ever been observed, when they were administered in a primitive disease. When the inflammation coincided with the administration of large doses of antimonials, "more or less copious and repeated bilious vomitings were almost constantly observed, while in the very small number of cases in which there was stomachic tolerance with gastritis, there was generally a development of antimonial pustules (as above mentioned) in the intestines. . . Vomiting, on the other hand; when the gastritis was spontaneous, was almost always absent, especially if there was enteritis present at the same time. . . In cases of softening, vomiting is less frequent than in gastritis after the administration of tartar emetic, but more frequent, when the softening is not caused by

this medicine; at the same time, vomiting more frequently accompanies softening coinciding with the use of tartar emetic, than spontaneous cases." P. 462.

From these facts, MM. R. and B. conclude that the opinion advanced by authors, that softening of the stomach is accompanied by constant, frequent and very copious vomiting, the children being unable to retain a single drop of liquid within the stomach, is most generally erroneous even in cases of gelatiniform softening.

Inflammation and softening of the intestines, whether erythematous, pseudo-membranous or follicular, are presented at length in the next chapter. The latter form, especially when occupying Peyer's glands is most carefully examined and studied, and the reader is cautioned against mistaking it for typhoid fever, to which it bears a close analogy, and from which, especially in very young children, it differs only in degree, they being often confounded together at that time of life and only gradually separating themselves with age. It is generally met with in the eruptive fevers, which so closely approach typhoid fever, and thus constitutes another point of analogy between these fevers and it.

The inflammatory affections of the large intestines are among the most destructive and frequent that are encountered in children; so much so, that MM. R. and B. state, comprehending in their calculation tuberculous cases, that one-half of the children which died, exhibited a more or less serious lesion of the large intestines; and when it is recollected, that this is especially the case with the youngest children, it will be seen that it is rare that a child between two and five years of age, dies without a colitis or softening of the larger intestines. As regards the symptoms, diarrhœa, which is "one of the most frequent phenomena in the pathology of childhood," is present as a general rule, in all forms of intestinal inflammation, the exceptions occurring only in slight cases. "It was absent in about one in twelve cases of inflammation or softening, whilst, on the other hand, of every twelve children who laboured under diarrhœa, giving ground for the suspicion of the existence of colitis, one presented a perfectly healthy condition of the intestinal canal. This statement is based upon about 300 post-mortem examinations, including tuberculous cases." Vol. i. 491.

Reasoning *à priori*, we might expect constantly to meet with *gargouillement* in these cases. The fact, however, is not so, and although the same circumstances which appear to give rise to it in typhoid fever, of which it is so characteristic, exist in these cases, it is, nevertheless, an exceedingly rare symptom, the authors having ascertained its existence "only four times out of several hundred cases of affection of the intestinal tube, not typhoid, among which were many cases of follicular inflammation."

These diseases are studied under four heads, acute normal, typhoid, dysenteric and chronic inflammation of the large intestines. The first is a mild, easily managed affection, when primitive, but capable of causing more serious consequences when occurring as a complication of some other acute disease, and therefore requiring strict attention on the part of the practitioner. It may complicate most of the diseases of childhood, and especially typhoid and eruptive fevers, among which rubeola is in this respect most prominent. The treatment must in such cases be directed against the primitive affection.

The typhoid form, to which the authors first directed attention, as being peculiar to children, resembles true typhoid fever in so many respects,

though differing in some of its pathological and symptomatic phenomena, that it can hardly be looked upon, we think, as any thing else than a modification of this disease, dependent upon the age of the child, showing, as the authors remark, a tendency in typhoid fever and enteritis to be confounded together during childhood, and to separate at a later period of life, becoming then distinct diseases.

Of the dysenteric form of entero-colitis the experience of the authors is too limited to enable them to present any important or valuable considerations: they therefore terminate this chapter with an account of the chronic or cachectic inflammation of the intestines. This may be suspected to exist, almost without fear of mistake, "whenever, in the absence of tubercular disease, a child is observed to fall away gradually, with a constant or rarely intermitting diarrhœa, if at the same time, the abdomen is more than usually flaccid and soft, or tender or painful; if the appetite is preserved, and if the thoracic organs, the liver and the spleen are in a healthy condition," of which facts we may assure ourselves by direct exploration. Vol. i. p. 536.

This is a very serious form of disease, and causes the death of a large number of children. The foundation of it is apt to be laid during the period of first dentition and the substitution of a new diet after weaning. The child should, therefore, be carefully watched at this time, its nourishment should consist of such food only as is found perfectly to agree with it, and it should enjoy the benefits of fresh air, cleanliness, exercise, &c. Indeed, this disease is within the control of properly directed hygienic treatment and of medicine, the children dying rather of the complications, of which the occurrence is favoured by their debilitated condition, than of the disease itself. Among the fatal complications, secondary pneumonia, is, we are told, unquestionably the most prominent, it being ascribable to the stasis of the blood in the lower parts of the lungs which is favoured by the cachectic and deteriorated state of these and other organs.

Important as it is in a scientific point of view, and as affording a nucleus around which to group the interesting facts which constantly fall under notice, and as the true method of establishing a fixedness in the views and opinions which are emitted relative to the diseases of the bowels, that the anatomical form should be carefully and accurately described and, as far as possible, traced in its connection with the symptoms generally attendant upon such morbid condition, so as to avoid the constant repetition met with in our systematic treatise, still, it must be confessed, as the authors themselves are compelled to admit, that the gravity of the symptoms and the extent and character of the lesions met with in the intestinal canal, are very far from corresponding, and that in fact the symptoms give the true indications for treatment in the present state of our knowledge of the affections of the bowels.

Acute peritonitis is, according to the observation of MM. Rilliet and Barthez, the least frequent of all the serous inflammations, except arachnitis. Of course, it must be recollected, that the children upon whom these remarks have been made, are far removed from the period of birth, (when this disease is said to be the cause of many deaths,) and that reference is made to those cases which occur apart from tubercles either in the peritoneum or in other parts of the body—the consideration of cases in which these are present being reserved to a subsequent portion of the work. The authors have never met with a case of chronic non-tuberculous perito-

nitis. Among the symptoms enumerated as characterizing this inflammation, are pain, tension and tympanitis of the abdomen, restlessness, fever, and a peculiar distressed expression of the countenance; but the authors have not met with vomiting and constipation so constantly as they have been said to occur. In effect, of the twelve cases, of which the histories are recorded by them, vomiting was observed in but two at the commencement, and in one about the 11th or 12th day, while constipation occurred in but two cases, in one of which the inflammation was consequent upon scarlatina, and in the other, upon perforation of the intestines during an attack of typhoid fever, when the diarrhœa which had previously existed and the urinary discharges were suppressed. Diarrhœa, on the other hand, existed in all the other cases from the commencement to the end of the disease, when death resulted, or for several days, when recovery took place: those which died, however, presented a slight softening of the mucous membrane of the large intestines. The treatment of this affection, of which the prognosis is always very grave, except perhaps when the inflammation is circumscribed, consists in an early resort to decided antiphlogistic means, when the age and constitution will admit of it, and in the use of mercurials and opium with warm baths, warm topical applications and acidulated drinks.

“Hepatitis is a rare disease among children;” we find no account of it in the recent works on the diseases of children, which have been published in this country, nor is any to be met with among the European writers, which corresponds with the description here given of it. The authors have collected but six cases of it, of which one was fatal: they were all primitive except this last, which occurred in a consumptive child, who died after presenting symptoms precisely analogous to those observed in the other five. The description presented in this chapter is founded solely upon the authors’ own observations, they having been unable to discover any cases reported in the periodical publications or elsewhere. The disease commenced in all with a marked febrile movement, thirst and anorexia; an icteric tint was soon observed, at first limited to the conjunctivæ, and slight, soon extending over the skin, and of a more decided colour; the liver now increased in volume, passed beyond the edges of the ribs, extended into the epigastrium, and at the same time rose in the hypochondrium, causing the dulness on percussion to extend up higher; generally indolent, the tumour was easily circumscribed when the abdomen was soft and relaxed, but with more difficulty when this was tender; at the same time the urine changed in appearance, becoming beer-coloured, while the stools were natural, rare, or frequent, colourless. After a longer or shorter period the febrile symptoms disappeared, the tumefaction of the liver gradually diminished, the icteric colour gradually disappeared, the urine and stools became natural, and after twenty or thirty days all the morbid symptoms were removed, the acute symptoms having usually ceased some time before.

In the fatal case the liver, after death, was heavy and enlarged, smooth and regular on its surface, which was of a bilious yellow colour,—of a natural consistence, presenting, upon cutting into the larger lobe, a granitic appearance, or a mixture of bright red spots with an equal amount of yellow substance. The left lobe was free from these appearances, and the gall-bladder contained a glutinous brownish bile. When primitive this is not a serious disease, the liver readily resuming its natural size, and, therefore,

not passing probably beyond the first degree of inflammation. Other writers, as Henke and Burns, as noticed by the authors, have met with a more severe form of inflammation of the liver, complicated with cerebral symptoms, and terminating occasionally by abscess, as recorded by Burns. The treatment recommended by MM. Rilliet and Barthez, is to diminish the febrile movement, to resolve the tumefaction, and to promote the normal secretion of the bile by means of antiphlogistic remedies, of calomel and mercurial frictions, followed by the use of a combination of aloes, rhubarb, and soap.

In their account of the inflammatory affections of the kidneys, the authors have followed the classification of M. Rayer, and have arranged all the cases of disease of these organs, which have passed under their observation, under the heads of simple and albuminous nephritis, calculous nephritis and pyelitis, hyperæmia and anæmia of the kidneys, referring the reader to a subsequent part of the work for an account of renal hemorrhage.

"A very remarkable difference," we are told by MM. R. and B., "exists between the albuminous nephritis of adults, and that which they have been enabled to observe in children, a difference which renders difficult the anatomical distinction between simple and albuminous nephritis. It is, that the disease rarely produces the granulations of Bright, and that, in the generality of cases, it only passes to the third degree. So true is this, that of eleven children who presented, during life, the symptoms of albuminous nephritis, viz., a more or less extensive anasarca, with albuminous urine during a longer or shorter period, four only offered the third degree, two the second, and four the first, while, in one instance, the kidneys were putrefied. In a twelfth case they ascertained, at the autopsy, the existence of granulations, but the urine had not been examined during life, and furnished no albumen after death. On the other hand, in the few cases of simple nephritis they have seen they never met with suppuration, either diffused, or in scattered points, or collected in abscesses. They have, therefore, only been able to compare the nephritic attacks in children in their first stages, and sometimes under the simple chronic form.

"Now, according to the description of M. Rayer, the two kinds of nephritis are with difficulty distinguished at their commencement; the only difference which he points out being in the consistence, which is increased in one and diminished in the other. In simple nephritis the increase of consistence has appeared to the authors to be more marked in children than in adults. On the other hand they have noted, in the three first degrees of albuminous nephritis a marked diminution of consistence of the cortical substances. . . . Thus, in respect to their anatomical relations, these two kinds of nephritis much resemble each other. If it is added that during life the difference is not always more marked, it must be agreed that in infancy the two affections are but little separated from each other. In effect, the same is observed, at this period of life, with regard to several other diseases, which in adult age have little relation with each other." Vol. i. p. 585-6.

As regards the anatomical appearances of these two forms of nephritis, in the simple, we find a morbid red colouring of the kidneys with increased volume and consistence, but without suppuration; while, at a more advanced stage, and in a chronic case, "two different lesions are met with; a partial or general discoloration, with increased volume and hardness of the kidneys, and irregularity of the surface, or a smaller volume, with condensation of the tissue and a deepened colour. In the albuminous, with increased volume there is morbid colouring and softening of the cortical substance; at a later stage the same tissue is marbled with yellowish spots

of varying size, which at a third stage invade the whole of the cortical, and sometimes even the tubular substance. It does not attain the fourth stage as often as in the adult." Vol. i. p. 591.

Anasarca, which is the prominent, as well as the first symptom noticed, for in no case was the urine examined before this appeared, is liable to oscillate and even disappear, leading to the hope of a cure having been effected. It should not inspire too much confidence, for "the cessation of albuminuria alone is a positive symptom of the restoration of health." This last symptom alone distinguishes the two forms of diseases, and is therefore of much consequence. It is from the complications of the disease that most danger arises; the most important of these are inflammation of those organs which are subject to dropsical effusions; they occur most frequently in the serous membranes and in the lungs, and are attended with more or less copious serous effusion. "All the children which died presented one or more serious complications, and the only cases of simple albuminous nephritis the authors met with, were in children which recovered. The absence of these complications, however, is rare, and if a cure is obtained, it is generally in spite of one or more intercurrent affections." Vol. i. p. 604.

Both forms are serious diseases. The simple was only recognized after death; the albuminous, however, has been cured by them in one half the cases, of which the character was determined during life. "Two of those cured died at a subsequent period, and upon examination it was ascertained that the cure was positive, and that the kidneys were in a normal condition. . . . But by a singular coincidence chronic nephritis is found to have been more frequently cured than the acute form, which generally carries off the patients rapidly, while the former is more amenable to treatment." Vol. i. p. 605.

Secondary albuminous nephritis is chiefly met with after eruptive and intermittent fevers. After scarlatina it occurs generally during the period of desquamation, from the twelfth to the nineteenth day from the commencement, and is caused by exposure to cold or change of temperature. It is as frequently met with, relatively to the frequency of these two affections, after intermittents as after scarlatina. Indeed, one of every six cases collected by the authors followed the former. It was in these cases chronic, and contributed, with the other complications, to produce a fatal termination.

When avoidance of exposure to cold, which should always be attended to, has not prevented an attack of nephritis, free bleeding, with warm applications to the back, or warm baths, and warm, soothing and nitrous drinks, should be immediately resorted to, and after bleeding saline purgatives may be employed with great effect. Vapour baths are highly recommended, to be given in bed regularly and successively. They were used by the authors in most of the cases which recovered, and tend to substitute the action of the skin for that of the kidneys, allowing these latter organs to rest. They are in some cases advantageously combined with the use of digitalis and nitre.

The authors have never recognized the existence of inflammation of the pelvis of the kidneys or pyelitis during life, though they have met with evidences of it after death. Hyperæmia and anæmia of the kidneys, appearing to be either the precursory condition or the consequences of simple or albuminous nephritis, and not having been recognized during life, present no useful practical considerations, either diagnostic or thera-

peutic, and we therefore pass them by and direct our attention to the inflammation of the encephalic and spinal organs, which alone of the internal organs, remain to be studied in this relation.

By considering, in a subsequent part of the work, inflammation of the meninges of the brain, as connected with tubercles, the authors have, as they remark, much diminished the importance of the present section. For "although it is a common saying, that most of the inflammations of children concentrate themselves in the head, we shall see that this is far from being the fact," when we abstract the tuberculous cases. Meningitis, apart from the tuberculous diathesis, has not been described, and MM. Rilliet and Barthez have been compelled to make up their account of it from the examination of only six cases, (five of their own, and one communicated by M. Legendre,) they having failed to find any others in the records of science upon which they could rely as being unconnected with tubercles. It is necessarily, therefore, imperfect, and must be regarded rather as a sketch to be filled up by future observers, than as an exact and full description of this disease, which consists in "an inflammation of the free surface of the arachnoid or of the pia mater, without tubercles either in the meninges, or in other parts of the organism."

The evidences of meningeal inflammation were, an alteration of the products of secretion, the arachnoid itself being smooth, polished, and transparent, while its cavity was found to contain pus, either in a liquid state, or, from much of its watery particles being absorbed, resembling false membranes. At the same time the meshes of the pia mater, itself brightly injected but without thickening or softening, were infiltrated with pus in great abundance, and over a large extent of surface, always upon the convexity, and in five cases out of six at the base also: sometimes the ventricular linings were also inflamed, and within the ventricles a small quantity of troubled secretion, and once pus, was met with, the brain itself being perfectly consistent and healthy.

The attack commences with considerable fever, intense headache, generally frontal, anorexia, bilious vomiting and great thirst, with profound alterations of the intelligence from the first day, alternating with stupor, agitation, delirium and coma. The symptoms rapidly increase in violence, with irregularity of the pulse, anxiety, embarrassed respiration, subsultus tendinum, tetanic symptoms, &c., ending in death at a period varying from thirty-six hours to nine days. The prognosis is, in the opinion of the authors, extremely unfavourable in this disease, from the rapidity of its march; and the indications for treatment require to be met by free bleeding both general and local, at the outset, the application of ice and cold compresses or affusion to the head, the use of the cups of Junod, or dry cupping by large cups applied upon the extremities. An early resort to mercurials, with a view to their constitutional action, revulsives, purgatives, absolute repose and quiet in a well-aired room, is demanded, and as a last resource, a blister should be applied to the head.

Two of the cases analyzed in the chapter under consideration, resulted from causes acting directly upon the head, one from insolation, and the other from exposure of the scalp, red and inflamed, after the fall of the scabs of a chronic eruption, which involved the greater part of it, had been obtained by the application of a large poultice. This affection would also appear to occur at times as an epidemic, an account of such a circumstance having been published by Dr. Albert in Hufeland's Journal for

1830; it is there stated that one hundred and fifty children were attacked with it in Berlin in the course of about two months. An abstract of this paper is given by the authors in the historical account appended to this chapter.

A short chapter follows on the diseases of the cerebral veins and of the venous sinus of the dura mater. These are chiefly interesting in an anatomical point of view, and the authors content themselves with giving an abstract of a paper published by M. Tonnelé, having themselves met with but very few instances of phlebitis of the sinus. They observe, with respect to cerebral congestion, which has been made to play so important a part in the diseases of children, that they find no symptoms necessarily attendant upon it, and that they have quite often met with the symptoms attributed to this condition of the brain, among which convulsions occupy a prominent place, when no such congestion could be discovered: nor have they any evidence when this was found, that it was not rather a consequence of, than an original condition giving rise to, the convulsions.

Encephalitis, or softening of the brain, so frequently observed in old age, is very rare in childhood; MM. R. and B. stating that they have only met with it, 1st, in children, who having died of different diseases, presented more or less serosity in the ventricles with an œdematous softening of the fornix, the septum lucidum, and sometimes the ventricular parietes, which did not reveal itself by any symptoms during life; and 2d, in cases where the softening was secondary to old cerebral lesions, and had developed itself around or in the neighbourhood of tubercles, hæmorrhagic collections, &c. But two cases of idiopathic softening of the brain are recorded; one, by M. Deslandes, in which there was softening of the whole cerebrum and cerebellum, and the other in the *Wochenschrift für die gesammte heilkunde*, 1837, No. II., revealing after death a well-marked red softening of the left corpus striatum. Both of these are presented by our authors, who have added from Dr. Durand, a very interesting case, in which the inflammatory lesion is well-marked and at a more advanced stage, the formation of pus having taken place, and a collection of it having been made in the lateral ventricles and in two cavities in the centre of the anterior left lobe. It was attended with severe cerebral symptoms.

Hypertrophy and induration of the brain, which are united by a common characteristic, viz., an augmentation of the density of the cerebral pulp, which is also the principal and most appreciable pathological phenomenon, are studied together, and in fact constitute in our authors' opinion, one disease. The sole apparent difference is, that in hypertrophy, the increased volume of the brain is very evident, whilst in induration, this is either absent or hardly appreciable. Yet, as the authors remark, this is not a sufficient distinction, for the augmentation of volume, in cases where the brain is generally indurated, may consist in an increase in the number and volume of the cerebral molecules, filling up the space which previously separated them. It is almost impossible to lay down any diagnostic sign of this condition: indeed, in one form alone, is it at all probable that it will be recognized during life, and that is, in children who have been exposed to the poisonous effects of lead: in these it may be suspected, when severe cerebral symptoms, as headache followed by convulsions, loss of consciousness and coma alternating with agitation and convulsive spasms, and, at the same time, violent bilious vomiting and severe abdominal pain appear;

especially when the child is known to have been exposed to this deleterious agency. Its course is very rapid, causing death in four or five days. It is sometimes apparently constitutional or congenital, but when acquired, has rarely been met with before the sixth year. The only treatment is prophylactic, to prevent the attack by removing the child from the action of its cause, or by other hygienic means; for when once developed, the disease appears to be beyond the resources of art. In the other cases, when the disease seems to have been congenital, and the head has progressively and proportionally increased in size with the brain, without alteration of the intellectual faculties, or derangement in motility or of the organs of the senses, the patient may live for many years, and finally die of an affection not necessarily an immediate consequence of the hypertrophy. Where these lesions are partial, they present themselves under different forms and cannot, according to the authors, be said to be the same affection. We have here, however, a simple narrative of the cases which they witnessed with some practical remarks.

MM. R. and B. next give a short sketch of spinal meningitis, stating at the outset their inability to trace its history with desirable accuracy, in consequence of their having themselves met with but one case of it, and that, too, complicated with tubercles, and of their finding the cases recorded by others, complicated either with cerebral meningitis, or softening of the spinal marrow.

A disease of more frequent occurrence is myelitis, or softening of the spinal marrow, of which the authors have themselves collected eight cases which are analyzed with three others in the chapter devoted to this subject. It is sometimes exceedingly rapid in its march, the children dying with the symptoms of acute tetanus, while in other instances it assumes a more chronic form, revealing its existence by a slight or more marked disorder of the muscular system, as by tetanic symptoms, paralysis, &c. It more commonly occurs among children over than under six years of age, and is, perhaps, not necessarily incurable, as cases of spontaneous tetanus have been cured: it is not, however, proved, as the authors remark, that in these cases there was softening of the spinal marrow. When it does exist, it cannot be mistaken after death, and may be met with in every degree, from slight diminution of consistence, to a diffuent state, of a dull white colour, more frequently seated in the posterior than in the anterior portions, in the white substance, and sometimes involving the whole thickness. General and local bleedings, purgatives, warm baths and opium in large doses, are recommended in the acute stage, and if they fail in procuring relief, a resort must be had to mercury and counter-irritation.

The consideration of the inflammatory affections of the spinal marrow is closed by directing attention to the fact, that it may sometimes be induced, though the authors do not assert positively that this is an inflammatory lesion. Two cases of it are noted, in both of which paraplegia was observed.

We have thus presented a general summary of some of the authors' views upon the important class of the internal phlegmasiæ. The external inflammations, among which are included, those of the articulations, of the skin, of the cellular tissue and of the ear-tubes, remain yet to be considered.

Acute articular rheumatism is a rare affection in children; yet the authors have collected eleven cases of it, and have had others placed at

their disposal. In all of these the children had passed the age of seven and most of them were between twelve and fourteen years. This disease is a slight and easily manageable one, even when complicated with pericarditis, as sometimes happens, though one fatal case has been observed by M. Piet. The symptoms are the same as in the adult, though less severe and of shorter duration, yielding sometimes in six days and always before the fifteenth day. Rheumatism is liable to be confounded, unless care is observed, with a form of articular inflammation occasionally met with in variola, manifested by the occurrence of pain and swelling, and which is sometimes cured by resolution, but in severe cases ends in suppuration, or with another form connected with phlebitis, or with a rare and curious affection, namely, effusion of blood into a joint, of which several examples have been recorded, connected with constitutional hæmorrhage, and presenting many of the symptoms of articular rheumatism.

The acute and chronic inflammations of the skin are next passed in review. Following the classification of Willan, modified by Rayer, and discussing in a few brief preliminary remarks, the comparative frequency of each order, and the peculiarities they offer, the authors dwell especially upon impetigo and favus among the pustular, eczema among the vesicular, and roseola and erysipelas among the exanthematous eruptions, which are carefully described in as many different chapters, and present an excellent practical summary of every interesting point relative to the symptoms, march and treatment of these diseases. Erysipelas of the face they consider a very rare affection in children; that is to say,

“When it is spontaneous, or occurs in the course of some other affection, but independently of all external causes, and when not the result of a disease of the integument.” External causes, as insolation, friction, a fall, &c., may produce it, but, even under these circumstances, it is not easily developed. The duration of this disease is from about seven to ten days, and every case of spontaneous erysipelas, observed by the authors, recovered. “Is it not singular, it is asked, that precisely at the age, when chronic inflammations of the face and of the scalp, are so common, erysipelas should be so rare, and that besides it should be so little liable to be attended with cerebral symptoms (as the authors show to be the case?)” Vol. i. p. 725.

Cutaneous diphtheritis, induration of the cellular tissue (which last twice presented itself to MM. R. and B. under the same circumstances as anasarca, bore the same appearance, followed the same course, and in fact resembled it in every respect, except the hardening of the tissue), and otitis are the subjects of the concluding chapters of this first class of the diseases of children.

Before leaving this portion of the work, we cannot pass unnoticed the opinions herein expressed as to the little danger to be apprehended of causing serious accidents by the repercussion of the diseases of the skin, and especially of those of the scalp. MM. Rilliet and Barthez affirm that the effects which have been attributed to this cause have been overrated, that in many, perhaps, in most cases, disease previously existed in the parts which manifest it under such circumstances,—as when by topical treatment the affection of the skin had been rapidly cured—and that at any rate, the new disease may have been caused by the absorption of pus from the inflamed surfaces, or by the state of irritation in the membranes of the brain—when this organ is attacked—kept up by the topical treatment. Though we are compelled in a certain number of cases, to admit

the truth of these positions, we cannot close our eyes to the fact that they are not always; nor even in the majority of instances correct: indeed, the authors themselves confess the risk incurred by proceeding too rapidly in the cure of these cutaneous affections, when chronic, and advise that derivation should be made upon the intestinal canal by means of purgatives; and the daily experience of practitioners will teach them to be cautious of transgressing the practical precept of *festina lente*, in attacking these chronic disorders.

The dropsies form the second class of the diseases of children treated of in these volumes. They are frequent affections of childhood, and besides being active or passive, as among adults, they may be primitive or secondary, the primitive being always acute, the consecutive sometimes acute, sometimes chronic, or cachectic. Some have doubted whether the primitive form, which is confessedly very rare, is ever met with; but the authors set this question at rest, having collected some incontrovertible cases. It is in general a mild disorder, attended with a distinct, though slight febrile movement, and, according to their experience, always terminates in recovery. To it the acute secondary form bears a considerable resemblance, but this is more serious in its consequences, because the child is already debilitated by the previous disease. It presents itself usually either as a very acute disease, causing death in a few days, or even a few hours, or as merely acute, being in this case easily cured, or becoming chronic, and then sometimes terminating fatally.

The cachectic dropsies are frequent, sometimes of short duration and almost instantaneously produced. They resemble the chronic form in being apyretic, in causing few general symptoms, and in the great enlargement they may occasion of the cavities, into which the serosity may be effused or infiltrated. The intimate nature of the disease is, in all cases, the same, viz., "a serous effusion or infiltration, of which the origin is most usually a general modification of the individual." As it frequently invades several organs at a time, it is more often a general than a local affection. We here meet with a similar remark to that noticed when speaking of inflammation, viz., "that robust boys of more than six years of age are more subject to the acute and active forms, whilst among girls and feeble children under six years, the chronic and cachectic forms are most usual." Vol. i. p. 750.

Commencing with the organs of the chest, MM. R. and B. first treat of œdema of the lungs, which is one of the most frequent forms of dropsy among children, and of which they have collected 77 cases. It has, in general, attracted but little attention, and being almost always terminal, revealing itself by obscure and almost inappreciable symptoms, it scarcely requires treatment; besides, it is only secondary, and less serious than the original and antecedent disease. It is important, however, to bear the possibility of its occurrence in mind, as we are told that it sometimes constitutes a part of those sudden serous affections after scarlatina, and, from its intensity in these cases, endangers the lives of the young sufferers. Obscurity of the respiratory murmur and sub-crepitant rattle, as indicated by Laennec, are the only stethoscopic signs which can be relied upon as revealing this disease; but it is difficult to ascertain their existence when caused by this state of things, as so many other affections of the organs of respiration are apt to mingle their sounds with those produced by this. The oppression of the respiration is always marked, and is greater in pro-

portion to the extent of the œdema and the rapidity with which it takes place.

Hydrothorax "merits attention in but a very small number of cases, being fatal when it occurs at the termination of a serious disease, and only presenting a chance of cure when it is acute itself, and the consequence of an acute disease." Vol. i. p. 763. Its certain existence can only be ascertained when there is a concurrence of great oppression, dulness, or diminution of sonorousness, obscurity or absence of the respiratory murmur, and at the same time absence of pain in the side. In many cases, as in the adult, the effusion probably takes place during the last hours of life, or even at the moment of death.

Hydropericardium is rare among children, and furnishes no interesting points for consideration, manifesting itself by no particular symptoms; indeed, the only lesion met with in the six cases analyzed by the authors was a comparatively very inconsiderable quantity of serosity in the pericardium. These two affections must be treated on general principles, according as they are acute or cachectic, squills and digitalis being combined with other general or local remedies.

MM. Rilliet and Barthez have analyzed 25 cases of ascites. They remark "that very young children often have the abdomen large and developed, so as, at first sight, to lead to the suspicion of their being ascitic; the error is more liable to be made if there is some œdema of the legs, and more especially of the abdomen; in this last case, in effect, a false fluctuation is often felt; the nature of the disease may be ascertained, 1st, by the pitting upon pressure; 2d, by the interposition of the hand pressing lightly upon the abdomen between the two points where the fingers are placed to seek for the fluctuation." P. 768. In a very young child fluctuation may be ascertained by having it held with the abdomen downwards, and then examining by percussion at the umbilicus.

Primitive ascites they consider a very rare disease, having only met with six cases of it; at any rate it is not a very serious form, and its spontaneous cure is not deemed at all impossible. As regards the cases of Dr. Wolff, who asserts that he has seen 100 in six years, MM. R. and B. say they fear "there has been some error of diagnosis; for at the same time that he affirms that the fluctuation was undoubted, he says that the mesenteric glands became enlarged. How could he ascertain this positively, seeing that he never made an autopsy of the disease?" A *résumé* of his work, taken from the *Bulletin des Sciences Médicales* is, however, given, that all may judge for themselves of the accuracy and applicability of his statements. The acute, active, secondary form so closely resembles peritonitis, that it is only distinguishable from it by the concurrent existence of dropsy in other parts of the body. The effusion is never very great, the march may be very rapid, in which case the prognosis is that of peritonitis—it being a very serious affection—and the treatment is the same as that directed in secondary peritonitis.

The chronic or cachectic secondary form of ascites is only serious in consequence of the extensive development of the cavities to which it may give rise, and the gradual increase of the cachectic disposition which may attend it. As regards *paracentesis*, the authors think that "it is rarely necessary to perform this operation, for it is only in a very small number of cases that the effusion is so great as to distend the abdominal parietes sufficiently to cause suffocation and the other accidents which

require a prompt evacuation of the liquid. . . We only admit it as the last resource, and in very rare cases." Vol. i. p. 774.

Hydrocephalus, according to the authors, results "from the effusion or infiltration, not inflammatory, of a liquid into the cranial cavities, or into the cerebral substance." Edema of the brain is admitted to exist whenever a white softening of the central parts is met with, and is very often the result of the direct infiltration of the ventricular serosity into the cerebral pulp. Hydrocephalus is almost always a consecutive affection, and may be either acute or chronic. Its importance, in the acute form, has been greatly diminished by the modern discovery of the dependence of serous effusion in the encephalon upon tuberculous meningitis, and, indeed, it is difficult to establish the fact of the presence of the affection we are considering, "the only symptoms which the authors have been able to refer to it being great agitation, cries, or constant moaning, succeeded, a little before death, by extreme prostration and stupor, loss of consciousness, coma, or even general insensibility, with dilated pupils, and a fixed stare." These, however, were not constant, nor were they all met with in the same cases. Acute hydrocephalus may be met with in all these diseases, which are often complicated with anasarca, as scarlatina, rubeola, gangrene, &c., and under this title should be classed those cases which have been described by authors as instances of serous apoplexy. The authors, like MM. Guersant and Blache, have never met with a case of primitive hydrocephalus, though such have been recorded, though at a time when the examination of the encephalic organs were made with less care than at present.

Chronic hydrocephalus is a more important form of disease. The authors do not believe that as a primitive acquired disease it has ever been met with, notwithstanding the assertions which have been published to the contrary; nor is this at all astonishing; for, as we are told, it is not at all proved that primitive chronic dropsy of any kind occurs in children. Cases which appear to authorize the belief in its possible occurrence have been published, and are transcribed by the authors in the chapter under consideration, but they are very doubtful. Be this as it may, this form may be either congenital or acquired; the cases here analyzed are chiefly of the latter class. The authors, after stating that they do not agree with M. Breschet in ascribing these arachnoidean effusions to inflammation of the meninges, as they have never seen them result from this cause, attribute them more frequently to the development of a tumour—and this, too, generally of a tuberculous or cancerous nature—in the cranial cavity, causing a compression of the *venæ Galeni* or of the *sinus rectus*, and thus obstructing the circulation, or to any other cause interfering with the free passage of the blood through the sinus. The difficulty of treating this affection depends upon the nature of the cause which produces the symptoms observed; even if we were able to remove the effusion, the lesion causing it still remains to reproduce the same effects. The authors doubt the propriety and efficiency of compression by means of adhesive strips, both from the risk incurred of causing pressure of the brain, and on account of the transpiration from the skin being thereby arrested. Tapping, which is reported to have been attended with success in some cases, is not applicable, they think—notwithstanding the cases published by Dr. West—to this form of hydrocephalus, for the reason above given, that though the fluid is evacuated, the cause of its effusion still remains behind;

but they admit that it may be useful in another form, consequent upon a hemorrhage into the cavity of the arachnoid. We cannot take leave of this subject without directing attention to the authors' experience in cerebral auscultation, which they give in the following remarks.

"Dr. Fisher, of Boston, has asserted that the ear applied to the head, and especially on the anterior fontanelle, can perceive a distinct *bruit de souffle* in this disease. We have never been able to recognize this sound in acute or chronic hydrocephalus; MM. Barth and Roger have also failed to do so. On the other hand, we once perceived it in a child which, judging from the size of the head, was believed to be hydrocephalic; yet upon examination after death, the brain was found in a perfectly healthy condition." Vol. i. p. 796.

Anasarca is a disease of much importance, says MM. R. and B., whether we consider the conditions under which it occurs, or its frequency. They have met with it in more than one-eighth of the patients they have observed, and present an excellent description of its symptoms and appearances, and of the circumstances under which it arises. Primitive anasarca is becoming more and more rare, we are told, as the advances in pathological anatomy disclose some hitherto unrecognized lesion to which it might be traced; but six cases of this form have fallen under their observation, occurring mostly in boys in good health, of good constitution, and between the ages of six and fifteen years. It is a light affection, was cured in each case, and should be treated—as also the acute secondary form, which much resembles it in its phenomena,—by antiphlogistic cooling drinks, sudorifics, diuretics, among which digitalis, squills, and nitre, are most highly recommended, and purgatives, when the intestinal canal is ascertained to be in a healthy condition. Of the secondary form, 155 cases, of which 79 were acute and 76 chronic or cachectic, have been collected and are analyzed. "Almost all the diseases of children, acute or chronic, may be complicated with anasarca, which is either acute or chronic, concomitant with, or posterior to the primitive disease, and is induced either by an excess or deficiency of the plasticity of the blood, or by some unknown condition of that fluid, or by an obstacle to the course of the venous blood, or by a disease of the skin and more especially of the lymphatic network, or finally by an affection of the kidneys, of which the mode of action is still obscure." Vol. i. p. 834. It most frequently occurs between the ages of two and five years, and, in its chronic and cachectic form, in girls and children of feeble constitution, and should be treated in reference rather to the primitive disease upon which it is engrafted, and to the constitution of the child; the cachectic form requiring the use of tonics, as ferruginous preparations, generous diet, bark, and frictions upon the skin.

We have thus passed cursorily over the matter contained in the first volume of this excellent treatise, and have reached the third class of diseases, according to the arrangement laid down by the authors, the hemorrhages, with the consideration of which the second volume opens. These, as we are told at the outset, are among the least interesting diseases of childhood, being rare, almost always secondary, frequently latent or obscure, and only revealing themselves when the sanguine discharge can take place externally or occupies an organ accessible to sight. They are much less frequent than the dropsies, though they would seem often to result from the operation of the same causes. The plethoric active forms are extremely rare under the age of ten years, and are almost exclusively met with after this period, especially in girls; while the chronic and cachectic

varieties are much more frequent between one and five years, the latter being almost exclusively passive, arising either from the want of due plasticity in the blood, or from a material alteration of the substance of the organic tissues or a perforation of the vascular parietes, which is much more frequent in childhood than at any other age. There is one form of hemorrhage which is almost exclusively met with in childhood, viz: the constitutional, which is evidently dependent upon some hereditary and constitutional predisposition. It is to be regretted that the authors have made no investigations, as to the alterations of the blood itself, which must evidently have more or less influence in determining the occurrence of hemorrhage; for if they had pursued this subject with the same intelligent and persevering industry, which they have brought to bear upon almost every other point touched upon in these volumes, it cannot be doubted that they would have added much and very valuable information upon hæmatology. Without doubt their future labours will be directed to this among other interesting matters.

The preliminary chapter contains a good general account of the phenomena of hemorrhages, of the modifications they exhibit when occurring in a serous or mucous membrane, or in the parenchyma of an organ, of their different forms, whether primitive or secondary, acute, chronic, or cachectic. Of the causes, of the prognosis—favourable in primitive cases, less so in secondary cases, though the nature of the primitive disease, the number of the organs attacked, and the copiousness of the hemorrhage must be considered in forming our opinions in these cases—and of the treatment which is generally applicable, but which must be modified according to the form of the attack, the cause and copiousness of the bleeding, the constitution and condition of the patient. The hemorrhages of the lungs, of the brain and of the skin, being the most important of the class, have received especial attention from the authors, those of other parts, being also treated of, but with less detail.

Pulmonary hemorrhage presents itself under two forms, hæmoptysis, when the fluid is rejected, and pulmonary apoplexy, when the blood is extravasated into the substance of the lung, this organ either preserving its vesicular character or being broken up and disorganized. Hæmoptysis is not frequent among children, MM. R. and B. having only met with two cases of the primitive form in girls, where the discharge was small in quantity, a few in tuberculous children, where it was almost always terminal and the cause of death, and four cases complicating gangrene of the lungs. The appearances of pulmonary apoplexy were encountered in twenty-two cases of children dying of various diseases. The existence of these lesions was not generally ascertained during life; and when any symptoms were observed indicative of this disease, it was usually only the day previous to the child's death: indeed, no special symptoms can be pointed out. Four of the patients died of suddenly fatal (*foudroyante*) hemorrhage, two of these from rupture of one of the vessels of the lungs, but without the occurrence of hæmoptysis, in either. These apoplectic attacks occurred most frequently in boys of or over five years of age and most generally in the course of pulmonary or bronchial tubercles, hemorrhagic variola, scarlatina, nephritis, colitis and secondary pneumonia.

Hemorrhage in the pleura, epistaxis, and hemorrhage of the stomach and intestines are briefly considered in separate chapters. The two last are very rare, and the authors doubt, from the facts they have consulted,

whether hæmatemesis has its origin in the discharge of blood from the vessels of the stomach, believing that it takes place in consequence of the flow of blood from other parts, which becomes lodged in the stomach and is thereupon rejected. Intestinal hæmorrhage, they state, has only been observed in the course of hemorrhagic eruptive fevers, of typhoid fevers and purpura, or in cases of tuberculous ulceration, causing the lesion and opening of a vessel of some size, or when an intestinal arteriole has been perforated by a lumbricus. Renal hemorrhage has been met with almost exclusively in eruptive fevers, and to the accounts of these last we are referred by the authors for their remarks respecting this symptom.

A much more important and interesting series of cases now demands attention, and has been studied by the authors with even more care than they have uniformly devoted to their investigations. We refer to cephalic hemorrhages. These may be seated, either under the scalp—these are very rare after the first year, although frequent in new-born children, but may occur above or beneath the pericranium, causing serious accidents—or between the dura matter and skull, or between the dura matter and arachnoid—neither of them presenting much practical interest, either in diagnosis or therapeutics, the latter, in fact, being much more rare than is generally supposed, the effusions being found to be actually effusions into the cavity of the arachnoid, though ecchymotic spots are sometimes met with external to this membrane—or finally within the cavity of the arachnoid. These last are by far the most interesting. The hemorrhage may be so great as to simulate actual hydrocephalus, as was the fact in the cases collected by the authors. Pure liquid blood, we are told, is very rarely found in the arachnoid cavity, for after its effusion, it is rapidly separated into a liquid serous part and a coagulum. This last undergoes various transformations—its colour changing from a red or even blackish tint to yellowish red or even yellow—as the result of which it passes into the condition and appearance of false membranes, delicate, elastic, more or less resisting, resembling sometimes the arachnoid itself in delicacy and transparency, at others a really fibrous membrane, becoming opaque, tenacious, and even, perhaps, as in the adult, stratified. The authors trace these clots, sustaining their views by appropriate *post-mortem* examinations, from the first moment of effusion to the false-membranous appearance described above; they are either single or several, their edges prolonging themselves into very thin layers, sometimes floating by one edge in the serous liquid and attached by the other to the arachnoid, sometimes to both of its surfaces, from which they are easily detached, leaving this smooth and transparent above, though the visceral portion often presents marked lesions, becoming thickened, opaline and resisting, so that it may be raised in a single layer, leaving the brain beneath perfectly healthy and rarely even congested. These clots have been mistaken for false membranes, the consequences of inflammation, and many cases of hydrocephalus actually resulting from hemorrhage have erroneously been attributed to inflammation of the arachnoid passed to a chronic state. The authors, however, state, that the only source to which they can trace these appearances, with any degree of satisfaction, and in accordance with facts, is to sanguine exhalation.

Except in cases where the effusion is so abundant as to constitute hydrocephalus, it is rare to observe any symptoms characteristic of the disease, that are not equally met with in other encephalic affections,

which may even be concomitant with it. Even when hydrocephalic symptoms are present, we can do nothing more than ascertain the fact, without discovering the cause. We must therefore, say the authors, rely on other circumstances to assist in forming the diagnosis. Among the most important of these is the following. "We (the authors) have never seen a child two years old and under, die hydrocephalic in consequence of cerebral tubercles; the disease was in them caused by sanguine effusion, and it is only when the head has begun to develop itself after two years of age, that we have found tubercles or other cerebral tumours with hydrocephalus (the authors, however, admit that instances of tuberculous ventricular hydrocephalus have been reported, one in particular by Constant). Can sanguine effusions, after the age of two years, give rise to hydrocephalus? We have no example of it, though we cannot affirm that it is always so." Vol. ii. p. 46. Another method of ascertaining the nature of the fluid, is to make an explorative puncture, which, in cases of doubt, the authors do not hesitate to recommend, judging by the character of the evacuated liquid and the depth to which it is necessary to penetrate, of the seat of the disease. The importance of ascertaining this fact is considered by the authors as very positive: for they think that it is in cases of this kind that the treatment of Gölis has been successful; and in the event of this disease being diagnosed, they recommend its immediate adoption to promote absorption, and if, after a reasonable trial, it should fail, they advise having recourse to puncturation in order to discharge the liquid, before the clots have been too completely transformed.

Hemorrhage into the meshes of the pia mater, they have never met with, though cases of it are reported by others. Cerebral hemorrhage loses much of its importance in children; of slight extent and rarely primitive, it is either latent, or appears only during the last days of life, or during the course of a disease, itself mortal. At any rate it is extremely difficult to distinguish the encephalic hæmorrhages from each other. It would appear, however, the authors think, "that the convulsive form of symptoms belongs more especially to meningeal apoplexy, whilst the inflammatory symptoms are mostly met with in cerebral hemorrhage itself." Nor is there difficulty in diagnosing these from other affections of the encephalon. Previous disease, the injudicious treatment of chronic affections of the scalp, a cachectic tuberculous disposition, and, in an especial manner, an obstruction to the circulation, particularly the venous and sub-diaphragmatic portion, are among the most prominent causes of these hemorrhages. All authors agree that cerebral hemorrhages are very rare in children, while some affirm that those of the meninges are frequent. They have, however, scarcely attracted the attention of writers. The conclusion to which MM. Rilliet and Barthez have arrived, has been corroborated by a paper published by M. Legendre, about the same time that their first memoir upon this subject appeared in the *Gazette Médicale*.

A full and interesting account of purpura, concludes the subject of the hemorrhages, and we are thus brought to the consideration of the fourth class of diseases—Gangrenes, which "form, in the pathology of childhood, one of the most marked and distinct classes of disease, from the uniformity of their aspect, of their course, of their causes, and of their gravity. Most generally fatal, gangrene is happily, comparatively infrequent, and ordinarily supervenes in the course of diseases already fatal of themselves." Vol. ii. p. 99. The skin, mucous membrane and lungs are most liable to gan-

grene, and it is to the study of the circumstances connected with its appearance in the mouth, pharynx, lungs and skin, that the authors confine their attention in this work. Gangrene is generally very rapid in its march, its fatal termination being dependent as much upon the disease which it complicates, as upon itself, though the nature of the tissue and the form of the mortification have an evident influence upon it. The eruptive fevers and especially rubeola, are the most common determining affections, and inflammation, though it rarely causes it, may predispose certain organs to its attack, as the pharynx in scarlatina, rubeola and variola, the lung in rubeola, &c. Gangrene is chiefly met with between the ages of three and five, endemic in most cases, epidemic occasionally, and manifesting, in this case, a tendency to attack several organs at a time. It is the result of a general condition, and not of a local one, reacting upon the economy: what this general condition is, the authors do not pretend to say. It should be counteracted by a tonic treatment, whilst topical remedies, among which cauterization is the best, should be employed to limit its extent.

Gangrene of the bronchial tubes is first treated of. It is generally consecutive to that of the lungs, though cases are met with independent of this condition, one of which is reported by the authors, having occurred in a girl eight years old, in the left bronchus, without corresponding gangrene of the lung.

This last is not a frequent affection, being always, or almost always secondary. Sixteen cases of it analyzed in the chapter before us. Fetidness of the breath, so important a symptom in the pulmonary gangrene of adults, is often wanting in the child; indeed, the diagnosis of this condition is very difficult, and can only be established by grouping together various symptoms, most of which are often absent, such as sudden prostration, fetid and gangrenous breath,—when no gangrenous lesion of the throat or mouth is present—the occurrence of hæmoptysis, the blood or expectoration becoming gangrenous in odour, &c. This last symptom of hæmoptysis so rarely encountered in children having occurred in this connection four times in sixteen cases. The prognosis is fatal, though if there is possibility of recovery, our imperfect means of diagnosis, preventing our ascertaining the fact. It may develop itself in the course of pneumonia, though the authors assert that they have never met with an example of primitive pneumonia, terminating in this manner, nor have they ever seen it occur *d'emblée* in an individual in perfect health. They think it probable that it may succeed a sanguine effusion or an apoplectic congestion of the lung, in consequence of the putrefaction of the blood poured out, and they consider it proved that it may occur in a nearly healthy pulmonary tissue: but in all these cases there must be present a general condition of the system which predisposes to such attacks. To bring about this predisposition, the eruptive fevers, and rubeola in particular, exert the most decided influence. As respects the treatment, the authors remark, "When a disease escapes our diagnosis and is only discovered after death, it is impossible to lay down any rules for its treatment; we must, therefore, be guided by analogy, when its existence has been ascertained." Vol. ii. p. 122.

Gangrene of the pleura is only interesting as an anatomical lesion; it reveals itself by no special signs, and therefore offers no therapeutic indications. Gangrene more frequently occurs in the mouth, than in any other part of the body, belongs peculiarly to childhood, and is almost necessarily fatal. The subject of the chapter under consideration is *cancrum oris*,

gangrene of the mouth, properly so called, and not the gangrenous aphthæ of children. It manifests itself in children, under miserable hygienic circumstances, in the course of, or during convalescence from, some acute or chronic affection, by an ulceration of the mucous membrane, sometimes gangrenous from the outset, or by œdema of the cheek: the mortification extends rapidly, occasioning perforation of the cheek, denuding of the bones, &c. The termination of the disease, whether abandoned to itself, or in spite of treatment, is constantly fatal. Of twenty-nine cases reported but three recovered. Topical treatment by caustics should be immediately resorted to, at the same time that the strength is supported by nutritious diet and tonics.

Gangrene of the pharynx is a rare disease. In very young children, where there is difficulty of making an examination of the throat, it may be suspected whenever the breath is fetid and gangrenous, while the respiratory organs perform their functions well, and there is no gangrenous expectoration, the cheeks being at the same time free from cancrum oris. It is desirable to distinguish it from that form of pseudo-membranous angina, in which patches of grayish-black and very fetid false membranes are met with. At the outset, there is hardly room for mistake, as these patches do not assume this appearance at once, while at a later period, the application of a caustic will immediately clear up the case by changing the character of the pseudo-membranous inflammation. In other respects the diagnosis is not very important, this lesion being a secondary one and almost necessarily fatal, occurring generally in eruptive fevers, and to be treated by washing the throat with solutions of chloride of lime, by astringent gargles of bark, &c., and the use of tonics.

The last chapter of this section relates to gangrene of the skin and of the external genital organs. It is considered under two heads; that "which is improperly called spontaneous gangrene, which is in fact the consequence of arteritis, or at least of the formation of a clot in the arteries, following a peculiar course, and exclusively occupying the extremities," and that which, not the result of arterial obliteration, occurs upon the skin either covered with, or deprived of its epidermis, and indifferently upon all parts of the body. We can only advert here to the authors' opinions respecting the action of blisters as a cause of this affection—opinions, which are certainly well founded, and cannot too often be repeated and too strongly borne in mind in practice. "It is remarkable," say they, "how easily in children, under some circumstances, blistered surfaces assume a gangrenous aspect; this tendency, as well as that to ulceration and to cover themselves with false membranes, is one of the causes why blisters should be banished from the therapeutics of young children. For ourselves, we have had but few opportunities of witnessing the gangrene of blistered surfaces, because in the services we have followed, the physicians have avoided the application of these agents." Vol. ii. p. 198. They remark, afterwards, in an appendix to these volumes, "we do not think, however, that we should deprive ourselves entirely of the resources offered by this energetic derivative; though it should only be employed under circumstances clearly warranting it." Vol. iii. p. 707.

The fifth class of diseases, which we have now reached, the neuroses, or "apyretic diseases characterized by a trouble of the functions of the nervous system, which itself presents no appreciable lesion," comprises pertussis, spasm of the glottis (Kopp's asthma), convulsions, chorea, con-

tractions and essential paralysis. Epilepsy and hysteria, which belong more particularly to adolescence and adult age, spontaneous tetanus, which is most generally connected with some affection of the spinal marrow, and neuralgia which is almost unknown in childhood, are not studied by the authors.

As an additional reason to those usually urged in support of the opinion which regards pertussis as a nervous affection, MM. Rilliet and Barthez state that the same convulsive paroxysmal cough with similar intermissions which characterizes this disease, is observed in cases where the pneumogastric nerve lies in contact with, and is probably compressed by, tuberculous bronchial glands, as well as in cases of traumatic lesions of this same nerve. It is hardly necessary, however, to multiply proofs of this fact, which is now pretty generally admitted, though it is difficult to account for the specific characters of its symptoms and of its mode of propagation. The danger in whooping-cough, arising chiefly from the complications, the authors devote much space to their consideration, and to fixing carefully the character and duration of the symptoms which are usually met with. The complications are studied under three heads. 1st, Those which may be considered as of the same nature as the disease, viz. convulsions and spasm of the glottis, the former being very far from infrequent, though peculiar to very young children, occurring during the second stage, and being of a very serious character. 2nd, those connected with it by their seat or by their local phenomena, as bronchitis—which is, by some, said to be always present, but which the authors only observed alone or united with pneumonia in about one-half their examinations, being more frequent the longer the disease lasted—pneumonia,—which, as before mentioned, generally coincided with bronchitis—and tuberculization, which is far from being a rare complication, though it usually manifests itself during the third period, and is, in a great majority of cases concentrated in the lungs or bronchial glands, or at least, is in excess there. Emphysema has been spoken of as a complication; but, as the authors show, unless inflammation of the lungs or bronchi was present, this was never met with; and even when they complicated whooping-cough, emphysema was proportionably less frequent than when they were unconnected with it. Indeed, the mechanism of pertussis would authorize us to make this inference, independently of *post-mortem* examinations, for each paroxysm consists of a series of forced expirations, followed by insufficient and difficult inspirations, which do not allow the air to reach and distend the smaller bronchial tubes and the vesicles of the lungs. 3d. Other complications, which are rather coincidences, as they have no other connection with the principal affection.

The diagnosis of this affection from bronchitis with spasmodic and paroxysmal cough, especially in the latter stages of both, and from tuberculization of the bronchial glands—"a distinction both important and delicate to make; important, because it is a question of distinguishing a disease susceptible of cure from one almost necessarily fatal; delicate, because whooping-cough being sometimes followed by phthisis, it is very difficult to ascertain which is cause and which effect"—is clearly laid down by the authors in their valuable chapter on pertussis, which would well repay perusal. In the treatment of pertussis, they do not advise attempting to jugulate the disease, but that every effort should be made to diminish the intensity of its symptoms and to prevent complications. They think

highly of belladonna, among the narcotics, though its good effects are far from being generally believed in, and recommend the use of the subcarbonate of iron, during the second period, in consequence of its evident effect in diminishing the duration and intensity of the paroxysms. As a last resource when the rational or empirical remedies have been exhausted, vaccination remains to be tried. "The English authors in particular," they say, "have published unquestionable cases of its efficacy. It is true that in France similar results have not been obtained; but the trials with it are not yet sufficient to admit of a final decision of the question of its utility." Vol. ii. p. 244. A sufficient number of cases have been published, we think, to give warrant to the belief that its adoption may both abridge the duration and diminish the intensity of the symptoms; at any rate, there can be no harm in vaccinating a child at this time, if the operation has not been before performed.

Spasm of the glottis or Kopp's asthma has been observed by the authors in but one case. Though they admit with some of the German authors an opinion, which has also been sustained in this country by a number of dissections, that the origin of the disease is, in many cases, pressure of the thymus gland upon the bronchi, lungs, arteries, veins and heart, interfering with the due performance of the functions of these organs and vessels; they state that cases of spasm of the glottis without enlargement of the thymus gland are undoubtedly to be met with, and that when hypertrophy does occur, it is not necessarily followed by spasm. They believe, in effect, with Marshall Hall and most of the English and German authors, that this affection is actually a spasm of the glottis.

Convulsions are the subject of the next chapter. They are treated of in this connection for the same reasons which induce the authors afterwards to devote a chapter to contractions and essential paralysis, viz. that, although sometimes the result of an appreciable cerebral lesion, they are also, in other cases, spontaneously developed, or occur during the course of affections of very different natures, without our being able to discover any relation between the previous disease and the convulsion, or to find any appreciable encephalic lesion. Hence they may be either primitive and sympathetic of some other affection, without encephalic lesion, or they may be symptomatic of encephalo-rachidian disease. The former are much more frequent in children under than over one year. Both forms are admirably described in the pages before us. The occurrence of epilepsy among children has been doubted, though we cannot but think without sufficient reason, and are not at all astonished at the question proposed by the authors, whether convulsions repeated at different intervals are not in fact attacks of epilepsy. For themselves, they can see no difference between this affection and violent convulsions, save in the repetition of the paroxysms, the symptoms being precisely the same in both, and they agree with Baumes, who admits no difference except that which time establishes. As regards the diagnosis, if there is hereditary predisposition and the age of six years has been passed, there is every probability that these repeated convulsive attacks, followed by complete restoration to health, are in fact epileptic. They may however be symptomatic of an affection of the brain, especially if the child is born of phthisical parents or has lived under bad hygienic conditions, as sympathetic convulsions are rare after the age of six years. As to cerebral congestion being a cause of this affection, the authors agree with the opinions expressed in Copland's compendium, that

this condition is rather an effect or consequence of the convulsion than the cause, though sudden congestion may be productive of convulsions: but it is often otherwise and they believe that in these cases, besides, or antecedent to, the hyperæmia, some other lesion of innervation existed which was the immediate cause of them. MM. R. and B. recommend, with M. Trousseau, compression of the carotids, as a means of relief from convulsions, in cases where the child enjoyed previous robust health, is of good constitution, and labours under a first attack, or when it is irritable and nervous, and when the attack comes on apparently without cause or after some moral perturbation.

Chorea is not a very frequent disease in the *Hôpital des Enfants Malades*, to judge from the number of cases reported in this work, which amounted to but 19, some of which were obtained from other persons. The assertion of M. Rufz, that intercurrent diseases do not modify the choreic affection is proved to be inaccurate, and several cases are reported in proof of this position. In effect 9 of the 19, experienced more or less severe intercurrent attacks, of which the influence was marked in 8 of them. They were eruptive fevers, which at first exasperated, and then caused the chorea to disappear entirely; sometimes they favoured the diminution and cessation of the choreic symptoms from the commencement. The treatment of this affection by antispasmodics and tonics is preferred to any other, the authors reserving the use of purgatives for those cases in which there is habitual constipation or when the disease is kept up, or exasperated by atony of the digestive tube. In fact the authors cannot entirely divest themselves of the fear, perhaps real in their hospital practice, of creating irritation and inflammation of the intestinal canal, by these means.

Two chapters follow on contractions and essential paralysis, which conclude the descriptions of the neuroses, and which we must pass by without further notice.

The sixth class of diseases treated of in the present work, is continued fevers. MM. Rilliet and Barthez entertaining with respect to these affections the same opinions as those advanced by M. Littré, define them thus. "Febrile affections, without intermission in their course, characterized, anatomically by an inflammation of the skin or of the mucous membranes, having their origin in a general morbid condition, itself probably the result of a particular modification of the blood." Vol. ii. p. 338. In this definition, are included typhoid fevers, variola, scarlatina and rubeola, which are believed to be something more than mere diseases of the mucous or cutaneous envelope, the general symptoms appearing before the local lesions, which last are very often at variance with the intensity of the febrile and nervous symptoms, and, indeed, at times entirely unnoticed. Although the eruption in typhoid fever is a much less important symptom than in the other enumerated affections, and the mucous inflammation in it exceeds the cutaneous, directly the contrary of what occurs in the others, they all resemble each other in so many respects as to warrant their being grouped together. In their complications, too, there is a difference; for, while the eruptive fevers complicate each other, the same child suffering under scarlatina, rubeola, or variola, either succeeding each other, and running regularly through their periods, or appearing simultaneously, mutually influencing each other, and becoming irregular, "it is extremely rare, to see typhoid fever developed after an eruptive fever, which, in its turn,

never occurs during the febrile period of dothineritis." Vol. ii. p. 345. The eruptive fevers differ again from typhoid in their mode of propagation. "Thus, scarcely is a patient, affected with scarlatina, variola or rubeola, brought into the wards, before we see several others attacked with the same affection; it is not so with typhoid fever, which has always come to the hospital from without, and has never propagated itself within." Vol. ii. p. 346. But while the eruptive fevers propagate themselves readily within the walls of the hospital, it is remarked by the authors that "it is extremely rare to see them develop themselves primarily (*d'emblée*) in the wards and at a period when no child in them laboured under these diseases; on the contrary, almost invariably one or more children affected with one of these eruptions and brought from without, formed the commencement of a series of cases, which did not cease to increase until all the children susceptible of taking the contagion had been attacked." Vol. ii. p. 347.

In respect to contagiousness, the authors find scarlatina to be a little more contagious than variola, which is much more so than rubeola: whilst rubeola is a little more frequent in the hospital than variola, which is much more so than scarlatina. As a prophylactic against these eruptive diseases, isolation is the only one worthy of any confidence, and should be strictly insisted upon, and especially in those cases, where those who would be otherwise exposed to their attacks, are already labouring under other affections.

Such are some of the many interesting and valuable points discussed in the preliminary article, which is immediately followed by a chapter on typhoid fever. The first monograph upon this disease, as occurring among children, which appeared in France,—though it had under different names been spoken of by some of the English and German writers—was published by M. Rilliet, in 1839; about the same time a memoir on the same subject was issued by M. Taupin, and contained an analysis of a large number of cases, which established generally the same results as those deduced by M. Rilliet, from his observations. The value and character of M. Rilliet's treatise, of which the present chapter may be considered a second edition, are fully established by the fact that it has been reproduced almost entire by M. Louis in the second edition of his admirable work on typhoid fever.

Typhoid fever is a frequent disease among children, and differs from almost all others to which they are liable, in being primitive in the immense majority of cases. The lesions by which it is revealed, anatomically differ somewhat from those observed in adults, and are thus summed up by the authors.

"1st. We meet in children with the same lesions of Peyer's glands, of the isolated follicles and of the mesenteric glands, as in the adult; but the ulcerations are generally smaller, less numerous and less deep. 2d. The form of the alterations of the plates (*plaques*), observed in the immense majority of cases, is that described under the name of soft plates (*plaques molles*). 3d. Ulceration is not the necessary consequence of their inflammation, which may terminate by resolution. 4th. Ulceration, when it exists, occurs later than with adults. 5th. Cicatrization takes place also with rapidity: we have found it complete the thirtieth day; at the third month, very manifest cicatrices may still be found. 6th. Ulceration of the membranes is very rare. 7th. Lesions of the spleen are far from being constant. 8th. The blood is most generally

liquid, or in soft blackish clots; the vessels are often coloured venous red." Vol. ii. p. 363.

In one-fourth of the cases, constipation was observed at the commencement of the attack, always, however, giving place to diarrhœa at a later period; and the authors notice that vomiting,—which occurred in about half the cases, which were generally serious ones—appeared in preference among those who were constipated at the outset. The means of diagnosis, the pathological phenomena and the symptoms are ably presented by the authors in their long and carefully prepared expositions of these points, and might, perhaps advantageously, be dwelt upon. We will, however, only enumerate some of the chief symptoms, which are to be relied upon in forming a correct diagnosis. They are "a somewhat marked loss of strength, though it is often difficult to estimate its degree, agitation, or slight nocturnal delirium, copious diarrhœa, accompanied with gurgling (*gargouillement*) in the iliac fossa, prominence of the spleen, numerous rose-coloured spots and sudamina, a febrile movement more intense than in gastritis, and continuing after the ninth day, and the existence of the sibilant rattle of bronchitis," which ordinarily accompanies this disease. Vol. ii. p. 382.

It is clearly shown here, that, contrary to the results obtained by M. Louis, in the case of adults, it is impossible in some instances among children to distinguish enteritis from the typhoid fever, they being confounded together so as to be inseparable in a considerable number of cases. "The predisposing causes of this disease are, the age from eight to fourteen years, the male sex, a good constitution, want of acclimation to city residence, and an epidemic influence;" the authors regard with doubt the effects of hygienic conditions, as regards nourishment, cleanliness, state of habitation, &c., in producing this disease, and while they do not positively deny the influence of contagion, they consider it much less evidently operative here, than in many other diseases.

Convinced of the necessity of employing much judgment and care in the treatment of typhoid fever, the authors wisely begin with the remark that they recommend no exclusive system—as was the fashion of the day in this disease, particularly—but advise a careful appreciation of the symptoms, which will, perhaps, demand a daily modification of the treatment. The purgative method, which has been so warmly advocated by those who first put it into use, has appeared to MM. R. and B. to have no very evident effect, in children, upon the duration of the disease, the fever, the state of the digestive organs, or the nervous symptoms; while they think "it is distinctly proved that the repetition of purgatives, especially in very young children, is more injurious than useful," in consequence of their liability to facilitate the occurrence of enteritis, a disease so easily developed in children, and so serious in its effects. Bleeding shall be reserved for those cases where it is clearly indicated by the symptoms, and at the commencement of the attack. The tonic, exclusive, treatment is next examined, but the evidence derived from their own experience is so limited as not to warrant the authors in making any conclusions from it.

We cannot but recall here the fact—though we fear to trespass too much upon the reader's patience—that this disease among adults has, of late years, been the subject of experiment of every French physician of standing, and that it has furnished more victims, perhaps, to experimental practice than any other in the nosological table. The most opposite and

exclusive methods of treatment have been proposed for its cure, and no matter how irrational or absurd all have found warm advocates and victims. This system, as barren of useful results as it is unwise and barbarous in its institution, is strongly presented in all its horrors by the clever author of *Mystères de Paris*, himself a physician, and the son and grandson of a physician. We hope the lesson of morality taught in the following extract may not be lost upon our readers.

“Was the doctor desirous of ascertaining the comparative effects of a new and somewhat venturesome treatment, in order to be enabled to arrive at conclusions favourable to this or that system, he would take a certain number of patients, treat these by the new method, those by the old, and others he would abandon to the sole resources of nature. After which he counted the survivors. These terrible experiments were verily a human sacrifice offered upon the altar of science.”

Happily for their own reputation, MM. Rilliet and Barthez do not sanction, on the contrary, they strongly disapprove of, these exclusive systems of practice. Indeed, we may say, without any fear of question, that there is no work of the modern French school, which exhibits throughout a more judicious and rational system of therapeutics than that which we have under consideration.

Variola is the subject of the next chapter. Our authors admit varicella as a variolous affection, rather because the description of others have proved it to arise from the same causes and under similar circumstances, than because this view is sustained by their own observations. They have evidently seen but very few cases of it, only nine, and those mild ones. Variola, varioloid, and varicella, are separately and fully considered, as respects their course, duration and precursory symptoms, and a long, careful, and minute account of the variolous eruption from the earliest appearance of papular redness to the period of complete desiccation, desquamation, &c., with all its varieties in each form, is presented and contains much and valuable information. The concomitant affections, as swellings, inflammation of the mucous membranes, &c., are next studied. The means of diagnosing variola in its first stage, before the appearance of the eruption, are indicated as far as possible: the authors, indeed, think that we may pronounce almost certainly upon the existence of a variolous attack, “when a child has fever, constipation, bilious vomiting, if at the same time it has not been vaccinated and complains of lumbar pains;” more especially if an epidemic of this disease is prevailing, or the child has been in any way exposed to its contagion.

The complications of this disease with other eruptions, are very interesting. They always aggravate the prognosis, more particularly, however, when they come rapidly upon each other, being less dangerous when an interval of health separates them. “Thus,” say the authors, “we have seen a little girl recover from varioloid, scarlatina and rubeola within forty-seven days; whilst in two other instances, when the same three eruptions appeared within a period of ten and sixteen days, the children died.” The authors take some pains here, and when studying the subject of tubercles, to examine into the respective influence of variola and tubercles upon each other, the former having been stated to preserve from tuberculous disease, giving rise to the inference, that the introduction of vaccination, while it protected from variola, increased the tendency to tuberculization. The results they present are, that variola and tubercles are in fact repul-

sive to each other, the former does not immediately engender the latter, and when occurring in connection with them appears more frequently in cases where the general diathesis is not marked: if it is marked, the variola is modified, by being rendered irregular, but when the tubercles are not numerous, they tend to pass to a cretaceous state and to be cured.

"We believe," say MM. R. and B., "that we may conclude without departing far from the truth, that the occurrence of variola has but little power either to favour or arrest the predisposition to tubercles. This conclusion cannot apply to vaccination, and if, in so serious a question, it were allowable to form an opinion from a limited number of facts, we (the authors) would say that children which have been vaccinated, are more disposed to tuberculation than those in which this operation has not been performed. In emitting this result of our observations, we anxiously desire that an improper estimate should not be placed upon the value we assign to it. We by no means regard vaccinia as a cause of tubercles; for we have never seen the chronic affection immediately succeed it; we merely note that vaccinated children more frequently die tuberculous than free from tubercles, and that the contrary is the case with children not vaccinated: whence we conclude that vaccination very probably favours the predisposition to tubercles."*

These results certainly are curious, and are presented as given by the authors; we do not think, however, that they will impair the credit in which vaccination is held at the present day, unless some more decided indication of its bad effects are adduced. It undoubtedly renders milder the attacks of variola, that once dreaded scourge; and none would be willing to forego this positive advantage from the vague fear of its inducing an equally fatal, though more insidious attack. "How does it happen," the authors ask, "that mild cases of variola, or, in other words, that varioloid is so much more frequently met with now than formerly, even in those who have not been subjected to this prophylactic treatment? May it not be due to the laws of inheritance, the children inheriting from vaccinated parents a less marked disposition to contract this disease? If such is the case, may not succeeding generations witness the complete disappearance of this disease, as well as of the disposition to contract it." Vol. ii. p. 526.

Though unable, from the very limited number of their cases, to settle the question of the propriety of vaccinating children, while exposed to the variolous contagion, MM. Rilliet and Barthez rather incline to the opinion, that the performance of the operation does not prevent the development of the disease, and that it causes injurious perturbation in its course; and they conclude that we should not vaccinate young and debilitated children, which have passed some time exposed to variolous contagion, it being better to remove them from its influence, and await the development of the normal disease: if this does not come on after a reasonable time, they may then be vaccinated. They recommend re-vaccination, as there appears abundant proof, that after a certain number of years, the protective powers of the vaccination become enfeebled. As regards the period at which this should be performed, during the term of life under consideration in these volumes, the diminution of its power being as yet very slight, they agree with M. Bosquet: "We willingly abandon it to the desires of our

* "In effect, of 208 children which had been vaccinated, 138 died tuberculous, 70 non-tuberculous. On the other hand, of 95 children, dying without having been vaccinated, 30 only were tuberculous, 65 not so. The same relation is presented in children who have neither been vaccinated, nor had variola: of 61 cases in this category, 19 died tuberculous, and 42 free from tubercles."—Vol. iii. p. 116.

patients, unless the sudden appearance of an epidemic furnishes a plausible pretext for greater instance."

Premising that, in their opinion, every attempt at general abortive treatment is dangerous in children, MM. R. and B. agree that, when directed to certain parts, as to the face, to prevent pitting, &c., it is useful and advisable. They prefer the use of the *emplastrum vigo cum mercurio*, which is both easy of application, unattended with pain, and, as far as their experience goes, invariably successful, when applied before the third day, in close contact with the pustules, and continued on until the termination of the eruption on the other parts of the body. There is but one inconvenience, and it is but a slight one, in its use, and that is, that in five instances the authors have met with attacks of hydrargyria arising from it, occurring at about the eighth or ninth day of the eruption, and four or ten days after the application of the plaster, and consisting of a slight erythematous or vesicular eruption about the abdomen, pubes, and thighs, lasting a few days, and then disappearing with desquamation in large scabs. It was attended with no danger, and, in fact, no other symptoms than the mere eruption.

MM. Rilliet and Barthez have a great dread of purgatives in this disease, because they would have the effect to remove the constipation which they consider the normal condition of the bowels in variola, and which should therefore be respected, unless it causes uneasiness and pain by its obstinacy, when some slight laxatives may be given. "For ourselves," say they, "who know how easily intestinal affections are caused in children, and who have ascertained the existence of follicular development, or of an inflammation of the mucous membrane of the digestive organs in a good number of cases of variola we have examined after death, we entirely reject this method (the use of purgatives,) and we avoid the production of diarrhœa in a young variolous patient." Vol. ii. p. 550. Certainly no one would desire to provoke diarrhœa in a young variolous patient; but we cannot but believe that the very fact of allowing the constipation of the bowels to continue will have a tendency to produce the effect it is so desirable to avoid, in consequence of the effort nature will make to relieve the bowels of such an inconvenience. Is it not, therefore, better and more rational to keep the bowels in a soluble state by mild laxatives from the beginning, if necessary, than to wait until pain and distension result from neglect, and demand their exhibition under circumstances not quite so favourable?

Much care has evidently been bestowed upon the preparation of the following chapter on scarlatina; indeed, the same may with truth be said in respect to this whole section of continued fevers, which contains a large amount of very useful matter, suggestive of reflection, and replete with instruction. Our attention can be given to a few points only, as we have allowed this notice to extend much beyond the limits within which it was intended to have restricted it. The authors remark that there is an evident relation between the brightness of the eruption and the freeness of the desquamation, and that it is a favourable sign to find this last take place very freely, inasmuch as it appears to prevent the development of anasarca; at least, some of the cases in which this complication was observed, were attended with but a moderate fall of the epidermis. This would seem to fall in with the generally prevalent opinion, that the milder forms of scarlet fever, accompanied with but slight eruption, and followed, consequently, by but slight desquamation, are most liable to be followed by secondary

affections. In some of the cases observed by the authors, "two successive eruptions of scarlatina appeared; a sort of relapse, rather rare, and which should rather be considered a second attack, when an interval of health occurs: in these cases the second eruption is generally anormal in its character." Vol. ii. p. 583.

The pharyngo-laryngitic affection is not essential to scarlatina; for of 87 cases, 18 had no angina, 37 had it but slightly, 20 severely, and in 12 no note is found of this lesion. The scarlatinous eruption in the throat is an entirely different matter, and should not be mistaken for it. The angina may take the grave ulcerous and pseudo-membranous form, this secondary inflammation invading the laryngo-tracheal passages, and presenting sometimes appearances resembling those of pseudo-membranous laryngitis. The authors have never observed, even in these cases, the symptoms peculiar to croup. As to anasarca, it was observed in about one fifth of all the cases between the twelfth and fourteenth days, and of these two-thirds laboured under nephritis, manifested by a characteristic lesion, either during life or after death. By the results obtained by the authors, the influence of cold and of albuminous nephritis in the production of this complication is clearly proved; an opinion which agrees with those now admitted by the best authorities: indeed, "it is impossible to deny that they often concur in the production of those dropsical affections; the action of cold is probably more general than that of nephritis, often precedes it, and is thus, at the same time, the cause both of the dropsy and of the disease of the kidneys; and consequently, it is chiefly against its effects that our prophylactic treatment should be directed." Vol. ii. p. 618.

Hydrocephalus was rarely met with by the authors, and only in the latter stages of scarlatina, manifesting itself by marked nervous symptoms, which are liable to be confounded with those due, at an earlier stage of the disease, to sanguine congestion, "which complicates this more than any other eruptive fever, rendering it promptly fatal." As to the prognosis to be made upon the occurrence of cerebral symptoms, indicative of some disease of the brain or its membranes, the authors state, "that cases of cure have been collected in which the disorders of intelligence were very marked; whilst all those patients who, *during the first fifteen days of the scarlatina*, were attacked with convulsions, convulsive movements, contractions, in a word, symptoms of derangement in the locomotive apparatus, without exception, died:" a result directly opposite to that obtained when these symptoms manifested themselves at a later period, and were attributable to serous effusions. Nor is it probable that these acute symptoms of cerebral disturbance are occasioned by meningitis; for, during their duration, no diminution of the *rapidity with irregularity of the pulse* was observed, a change so constant in tuberculous meningitis. Vol. ii. p. 623-4.

Scarlatina and tuberculization are repugnant to each other, according to the facts recorded in these volumes.

"Scarlatina very rarely engenders tubercles; tuberculous children are very rarely attacked with scarlatina, which is then anormal; children cured of tubercles contract scarlatina more frequently than the preceding, and in their case the eruption may be normal; the tuberculous children who contract scarlatina have but a small number of crude tubercles, and very rarely softened ones; and in these cases the tubercles often manifest a tendency to become soon cretaceous." Vol. ii. p. 634.

The only prophylactic treatment which will probably succeed, is the

perfect isolation of those liable to contract the disease, even from the attendants on those labouring under it. With the utility of belladonna, in small doses, the authors have no experience; still they incline to the opinion that it may be serviceable, and recommend its employment, not, however, to the neglect of isolation; they justly remark that more positive proofs of its efficacy are still wanting, and more explicit information as to its effects, and the time for, and mode of, its administration, is much to be desired.

The last of the continued fevers here studied by the authors, is rubeola. They have endeavoured to render the history of this affection complete in respect to the influence of its possible complications upon its course, a point hitherto much neglected. They show that the course of the normal form of this disease is modified by an intercurrent disorder, being differently affected in accordance with the nature of the complication and the period at which it makes its appearance. Their conclusions are presented in the following summary.

"1st. *Normal* rubeola commences during the course of good health, and has a regular march;

"2d. It may be simple, or be accompanied or followed by different accidents, which constitute complications. Those of these accidents which are febrile never commence before the period of decrease of the eruption;

"3d. The *anormal* rubeola, which commences during good health, becomes anormal in consequence of being complicated by an acute and febrile disease, which manifests itself either before the appearance of the eruption, or during its period of increase;

"4th. The complications which arise as a sequel to normal or anormal rubeola are, either acute inflammatory diseases which keep up the acute febrile movement, or chronic diseases which change the active fever of rubeola into a hectic fever;

"5th. Anormal rubeola may arise during the course of another disease; its symptoms are then partly confounded with those of this last, and give to the patient an aspect which is rarely that of rubeola. Not less serious than the other forms, this rubeola may be complicated with the same accidents;

"6th. Finally, rubeola occurs at times during the last days of life; then completely anormal, it scarcely manifests itself but by an eruption, and hastens the death of the child." Vol. ii. p. 704.

The most frequent complication of rubeola—which rarely occur singly, several presenting themselves either simultaneously or successively—is broncho-pneumonia, this being much more usual than either bronchitis or pneumonia alone. The latter, when it occurs, is lobular, with a tendency to disseminate itself through both lungs, and to advance to the third degree, even to suppuration. It is very rarely lobar. When the pneumonia coincides with the commencement of the rubeola, it may, in all probability, be considered a distinct disease, and, indeed, it would seem to be so; for, say the authors, "it is under such circumstances that we have ascertained the existence of lobar pneumonia in rubeola, whilst the pneumonia which arises during the eruption is always lobular." Vol. ii. p. 715. Broncho-pneumonia may be developed at three periods, which we will name as they most frequently present it; during the precursory symptoms, or the first days of the eruption, during the decrease of this, and after the rubeola, as far as the eruption is concerned, is cured. This complication is one of the most frequent—if not the most effectual—cause of death in measles; scarcely one of four or five attacked with it recover, whilst in simple rubeola recovery is the general rule, and even when pneumonia

alone complicates it, the cures are more frequent than the deaths. Cold is certainly the active agent in the production of broncho-pneumonia, and should therefore be strictly guarded against. Pharyngo-laryngitis is a frequent complication, though the authors are of opinion that where the pharyngitic inflammation was observed, it might, and should be ascribed to the coincident prevalence of scarlatina. They remark that "when these two diseases coincide, the intensity of the pharyngeal and bronchial inflammation is in inverse proportion to the intensity of the affection; each usually complicates. Thus, if the scarlatina is most severe, the bronchitis is most prominent, while if the rubeolous eruption be most decided, the angina will be the most serious affection." Vol. ii. p. 714.

Next to the pulmonary complications in frequency, are the inflammation and softening of the intestines. These alone are rarely mortal, but when coinciding with the pulmonary lesions they are very serious. Young children are peculiarly liable to this form of the disease, which is easily aggravated and rendered active by the improper use of purgatives. "Rubeola," say the authors, "unquestionably favours the development of tubercles; not as frequently as certain pathologists have pretended, but sufficiently so to constitute a considerable proportion. Thus, to judge from our own experience, of about 11 cases of primitive rubeola, one would be followed by the development of tubercles." Vol. ii. p. 729.

Having thus completed our consideration of the second volume, we find that our notice has extended to such a length that we must postpone the examination of the third and last volume to a future occasion. It is devoted almost entirely to tuberculous diseases and deserves a more careful analysis, both on account of the importance of the subjects, and the manner in which they are handled, than could be given to it in the very limited space into which it would be necessary here to compress it.

C. R. K.